## **Combined Author Index**

| Abdo, Z.A.M.                    | 2723-2726A               |
|---------------------------------|--------------------------|
|                                 | 3111-3124A               |
| Adachi, GY.<br>Adams, B.L.      | 45-51B<br>969-979A       |
| Advani, A.H.                    | 1367-1379A               |
| Agarwal, A.                     | 295-306B                 |
| Ahlers, M.<br>Ahmed, M.S.       | 493-499A<br>1529-1534A   |
|                                 | 1137-1146A               |
| Ajersch, F.<br>Akaiwa, N.       | 2341-2348A               |
| Akbay, G.<br>Akdogan, G.        | 707-714B<br>231-239B     |
| Akhtar, A.                      | 335-343A                 |
| Alam, M.                        | 2191-2199A               |
| Albarran, J.L.<br>Alkemper, J.  | 2419-2428A<br>2341-2348A |
| Allain, E.                      | 567-576B                 |
|                                 | 577-587B                 |
| Allison, J.                     | 1009-1015B<br>133-146A   |
| Allison, J.E.                   | 3055-3068A               |
| Alostaz, A.                     | 195-201A                 |
| Alvarez, A.<br>Amateau, M.F.    | 1017-1024A<br>183-193A   |
| Anagnostopoulos, J.             | 1095-1105B               |
| Anderson, A.J.                  | 1981-1988A               |
| Ankem, S.                       | 1675-1679A<br>2249-2251A |
| Anson, J.P.                     | 1027-1032B               |
| Aoki, K.                        | 1877-1880A               |
| Aoyama, T.                      | 1333-1339A<br>15-20B     |
| Arai, K.<br>Araki, H.           | 3009-3011A               |
| Aramaki, M.                     | 1185-1191A               |
| Ardell, A.J.                    | 2403-2408A               |
| Arnberg, L.                     | 287-293B<br>2455-2462A   |
| Arvanitudis, I.                 | 901-908B                 |
| Avishei, A.                     | 723-729B                 |
| Babu, R.<br>Baczynski, G.J.     | 459-464B<br>3045-3054A   |
| Baek, W.H.                      | 627-632A                 |
| Bag, A.                         | 1193-1202A               |
| Balikci, E.<br>Bamberger, M.    | 2803-2808A<br>723-729B   |
| Banerjee, D.                    | 789-798A                 |
| Banerjee, S.                    | 41-52A                   |
| Barbante, G.G.<br>Barber, B.    | 589-595B<br>427-435A     |
| Baril, E.                       | 681-695A                 |
| Barlat, F.                      | 377-386A                 |
| Barsoum, M.W.                   | 387-397A<br>363-369A     |
| Darsouri, W. VV.                | 1727-1738A               |
| Bataillard, L.                  | 1275-1282A               |
| Baxter, W.J.                    | 195-201A<br>815-824A     |
|                                 | 1835-1841A               |
| Beccard, R.                     | 1047-1051A               |
| Becker, A.<br>Beckermann, C.    | 623-630B<br>1357-1366A   |
| Deckermann, O.                  | 2183-2189A               |
| D 2 11 1 T                      | 3016-3019A               |
| Benihaddadene, T.               | 613-622B<br>1107B        |
| Bennour, F.                     | 67-74B                   |
| Bentsen, L.                     | 175-181A                 |
| Berbon, P.B.<br>Bergeles, G.    | 1989-1997A<br>149B       |
| Borgoros, G.                    | 1095-1105B               |
| Bergman, M.I.                   | 1809-1815A               |
| Bertinetti, M.A.<br>Beuth, J.L. | 2875-2884A<br>949-959A   |
| Bharadwai, R.                   | 2419-2428A               |
| Bidaye, A.C.                    | 205-213B                 |
| Biermann, H.<br>Bjerregard, H.  | 1880-1882A<br>1843-1866A |
| Bjorneklett, B.I.               | 2667-2677A               |
| Blecic, D.                      | 1597-1603A               |
| Blecic, Z.<br>Bleck, W.         | 1597-1603A<br>2619-2627A |
| Blot, P.                        | 803-813B                 |
| Bloxham, J.                     | 1809-1815A               |
| Bloyer, D.R.<br>Bo, Y.          | 633-642A<br>1147-1151A   |
| _0,                             | 1153-1157A               |
|                                 |                          |

|   | Combined  |
|---|---|
| Bocardo, J.C.E.<br>Boehlert, C.J.<br>Boileau, J.M.              | 505-513B<br>2305-2323A<br>2349-2367A<br>3055-3068A      |
| Bolmaro, R.E.<br>Bonazza, R.                                    | 2875-2884A<br>1083-1088B<br>781-788A                    |
| Bonney, L.A.<br>Bor, H.Y.<br>Bottger, A.J.<br>Bouris, D.        | 551-561A<br>1945-1953A<br>149B                          |
| Bourke, M.A.M.<br>Brimacombe, J.<br>Brocchi, E.A.               | 2989-2997A<br>K. 553-566B<br>375-381B                   |
| Broderick, G.<br>Brooks, P.W.<br>Brozik, S.M.<br>Brusethaug, S. | 5-13B<br>1083-1088B<br>2129-2134A                       |
| Bryant, J.D.<br>Buchmayr, B.<br>Bull, S.J.                      | 2135-2146A<br>1999-2006A<br>1663-1673A<br>2931-2939A    |
| Butt, D.<br>Bystricky, P.<br>Byun, G.                           | 2129-2134A<br>1843-1866A<br>234-243A                    |
| Caceres, C.H.<br>Calcaterra, J.R.<br>Campbell, C.E.             | 501-512A  |
| Campbell, J. Campbell, J.P.                                     | 2809-2816A<br>2817-2823A<br>563-577A                    |
| Cano, S.<br>Cantor, B.<br>Cao, G.<br>Carnes, J.D.               | 773-778B<br>1341-1356A<br>1101-1108A<br>2403-2408A      |
| Carreño, F.<br>Caton, M.J.<br>Celentano, D.                     | 371-376A<br>3055-3068A<br>731-744B                      |
| Chambreuil-Par<br>Chan, K.S.                                    | ret, A. 1327-1331A<br>579-585A<br>925-939A              |
|   | 1203-1209A<br>1686A<br>2007-2018A                       |
| Chandrasekar,<br>Chang, J.C.                                    | 3025A<br>3239-3251A<br>S. 815-822B<br>3191-3199A        |
| Chang, L.C.<br>Chang, SY.                                       | 909-916A<br>1119-1136A<br>1081-1095A                    |
| Chang, Y.A.<br>Chang, Y.W.<br>Chao, C.G.                        | 2037-2047A<br>551-561A<br>917-923A                      |
| Chaturvedi, M.0<br>Chen, G.L.<br>Chen, H.<br>Chen, K.X.         | C. 1717-1726A<br>2591-2598A<br>685-688B<br>825-828A     |
| Chen, L.<br>Chen, L.H.  | 1097-1100A<br>1549-1558A<br>1775-1784A                  |
| Chen, S.<br>Chen, S.F.  | 2258-2260A<br>2297-2303A<br>1775-1784A                  |
| Chen, S.R.<br>Chen, T.R.<br>Chen, W.                            | 1235-1247A<br>53-64A<br>2659-2666A                      |
| Chen, ZP.<br>Chen, ZP.<br>Chen, Z.L.                            | 411-416A<br>3069-3078A<br>451-457B<br>31-40A            |
| Cheng, C.P.<br>Cheng, J.<br>Cheynet, MC.                        | 1549-1558A<br>427-435A                                  |
| Chi, R.<br>Chiu, L.H.<br>Cho, J.H.                              | 189-195B<br>781-788A<br>377-386A                        |
| Choi, CS.<br>Choi, S.H.<br>Choo, SH.                            | 667-670A<br>377-386A<br>1211-1221A                      |
| Choo, W.K.<br>Chou, KC.<br>Choudhary, B.                        | 3131-3141A<br>1495-1501A<br>3099-3102A<br>C. 2825-2834A |
| Chu, K.C.<br>Chuang, T.H.                                       | 1705-1716A<br>643-651A<br>941-948A                      |
|   | 3191-3199A  |

| ithor Index                          |                          |
|--------------------------------------|--------------------------|
| Chun, JH.<br>Chung, K.               | 1403-1409A               |
| Chung, W.S.                          | 377-386A<br>215-221B     |
| Cingolani, E.                        | 493-499A                 |
| Clavel, M.                           | 2853-2863A               |
| Cockcroft, S.L.                      | 2147-2158A               |
| Coghlan, S.C.<br>Colas, R.           | 307-313A<br>773-778B     |
| Collins, L.E.                        | 3045-3054A               |
| Conrad, H.                           | 2809-2816A               |
| 01-00                                | 2817-2823A               |
| Cook, C.S.<br>Cooley, K.M.           | 1981-1988A<br>2679-2687A |
| Corradini, M.L.                      | 1083-1088B               |
| Corral, E.                           | 2539-2545A               |
| Corum, J.M.                          | 1569-1578A               |
| Cross, M.<br>Cruchaga, M.            | 803-813B<br>731-744B     |
| Cui, Y.                              | 1785-1795A               |
|                                      | 2735-2744A               |
| Daehn, G.S.                          | 2073-2087A               |
| Dahle, A.K.<br>Daniel, B.S.S.        | 287-293B<br>2951-2958A   |
| Dariel, M.P.                         | 3201-3210A               |
| Das, A.                              | 2563-2573A               |
| Das, K.                              | 1437-1447A               |
| Das, S.                              | 1437-1447A               |
| Datta, S.K.<br>Davidson, C.J.        | 175-181A<br>2611-2618A   |
| Davidson, D.L.                       | 579-585A                 |
|                                      | 925-939A                 |
|                                      | 1686A                    |
|                                      | 2007-2018A<br>3025A      |
| Davis, C.L.                          | 2089-2096A               |
| Dayananda, M.A.                      | 535-543A                 |
|                                      | 545-550A                 |
| Daymond, M.R.                        | 2989-2997A               |
| De Paco, J.M.<br>De Saldivar Garcia, | 1913-1921A               |
| J.A.                                 | 1177-1184A               |
| De Souza, U.J.                       | 183-193A                 |
| Debroy, T.                           | 483-493B                 |
| Degterov, S.A.                       | 661-669B<br>1033-1044B   |
| Del Castillo, L.                     | 1381-1389A               |
| Delfino, S.                          | 1169-1176A               |
| DeLo, D.P.                           | 1391-1402A               |
|                                      | 1425-1435A               |
| Deng, Z.                             | 2473-2481A<br>2619-2627A |
| Desbiolles, JL.                      | 3153-3165A               |
| Deschler, M.                         | 1047-1051A               |
| Deshpande, A.                        | 2129-2134A               |
| Desimoni, J.<br>Deura, T.N.          | 2745-2752A<br>403-410B   |
| Deve, H.E.                           | 2513-2522A               |
| Devilee, R.A.                        | 607-611B                 |
| Dey, G.K.                            | 171-188B                 |
| Dickerson, R.<br>Dickson, J.I.       | 933-944B<br>1039-1045A   |
| Ding, G.                             | 2167-2171A               |
| Ding, G.L.                           | 2159-2165A               |
| D: V                                 | 2463-2472A               |
| Ding, X.<br>Dipasquale, J.           | 271-277B<br>1025-1038A   |
| Disam, J.                            | 799-806A                 |
| Divakar, M.                          | 429-433B                 |
| Dobromyslov, A.V.                    | 231-233A                 |
| Doherty, R.D.<br>Dong, J.X.          | 1223-1233A<br>1341-1356A |
| Donizak, J.                          | 505-513B                 |
| Dons, A.L.                           | 2135-2146A               |
| Dos Reis, M.L.                       | 375-381B                 |
| Doty, et al, R.E.                    | 2931-2939A<br>1027-1032B |
| Drew, R.A.L.<br>Drezet, JM.          | 449-455A                 |
| Du, Y.                               | 2409-2418A               |
| Dudek, H.J.                          | 2713-2720A               |
| Dunand, D.C.                         | 829-838A                 |
| Duncan, A.J.                         | 2989-2997A<br>745-750B   |
| Dunn, M.L.                           | 203-212A                 |
| DuPont, J.N.                         | 1763-1774A               |
| Durrant, G.                          | 1341-1356A               |
| Dutrizac, J.E.                       | 993-1001B                |
|                                      |                          |

| Dwarakadasa, E.S.           | 1193-1202A               |
|-----------------------------|--------------------------|
| Dykhuizen, R.C.             | 107-117B                 |
| Easton, M.                  | 1613-1623A               |
|                             | 1625-1633A               |
| Eckert, M.                  | 1315-1326A               |
| El-Danaf, E.                | 1223-1233A               |
| El-Eskandarany, M.S.        | 1877-1880A               |
| El-Raghy, T.                | 363-369A                 |
| Elkin, V.A.                 | 1727-1738A<br>231-233A   |
| Elzey, D.M.                 | 2689-2699A               |
| Engler, O.                  | 1517-1527A               |
| Enomoto, M.                 | 2429-2437A               |
|                             | 3125-3130A               |
| Eric, R.H.                  | 231-239B                 |
|                             | 589-595B                 |
|                             | 695-705B                 |
|                             | 695-705B<br>707-714B     |
| Esquivel, E.                | 2539-2545A               |
| Euh, K.                     | 3143-3151A               |
| Evangelista, E.             | 2591-2598A               |
| Evans, A.G.                 | 763-769A                 |
| Evans, J.W.                 | 331-339B                 |
|                             | 623-630B                 |
| Fahmy, Y.                   | 2809-2816A               |
| Fee 110                     | 2817-2823A               |
| Fan, H.G.<br>Fan, J.        | 791-801B<br>3079-3088A   |
| Fan, P.                     | 271-277B                 |
| rail, r.                    | 3099-3102A               |
| Fang, CK.                   | 643-651A                 |
| ang, or re                  | 941-948A                 |
| Fang, DN.                   | 1933-1943A               |
| Fang, Z.                    | 3231-3238A               |
| Farber, L.                  | 1727-1738A               |
| Fearn, D.R.                 | 1809-1815A               |
| Feaugas, X.                 | 2853-2863A               |
| Feng, S.P.                  | 213-219A                 |
| Ferro, H.                   | 1169-1176A               |
| Fischer, F.D.               | 2583-2590A               |
| Fleury, E.                  | 133-146A                 |
| Foecke, T.<br>Fradkov, V.E. | 2959-2965A<br>1541-1547A |
| Frage, N.                   | 857-863B                 |
| 1 1ago, 14.                 | 3201-3210A               |
| Fras, E.                    | 927-93219                |
| Frear, D.R.                 | 1301-1313A               |
| Fredman, T.P.               | 323-330B                 |
| Frey, N.D.                  | 1425-1435A               |
| Froes, F.H.                 | 751-761A                 |
|                             | 1017-1024A               |
| Fruehan, R.J.               | 29-43B                   |
| E. U                        | 945-956B                 |
| Fu, H.<br>Fujita, T.        | 2843-2852A<br>2713-2720A |
| Fujiwara, C.                | 653-666A                 |
| i ujiwara, O.               | 3019-3024A               |
| Fujiwara, H.                | 419-427B                 |
| Fukui, Y.                   | 3253-3261A               |
| Fukunaka, Y.                | 99-105B                  |
|                             | 779-790B                 |
| Fukushima, A.               | 653-666A                 |
|                             | 3019-3024A               |
| Fukuyama, H.                | 1971-1979A               |
| Furdanowicz, V.             | 3031-3044A               |
| Furukawa, M.                | 1989-1997A               |
| Gaballah, I.                | 383-391B                 |
|                             | 567-576B<br>577-587B     |
|                             | 1009-1015B               |
| Gale, W.F.                  | 2723-2726A               |
| dale, vv.i.                 | 3111-3124A               |
| Gall, K.                    | 3079-3088A               |
| Gandin, C.A.                | 3153-3165A               |
| Gao, J.                     | 771-776A                 |
| Gao. M.                     | 2297-2303A               |
| Gao, Z.Y.                   | 2701-2712A               |
| Garg, A.                    | 587-600A                 |
| Gatica, J.E.                | 175-181A                 |
|                             | 933-944B                 |
| Gaudett, M.A.               | 65-79A                   |
| Gaudette, F.                | 763-769A                 |
| Gavens, A.J.                | 2959-2965A<br>825-828A   |
| Ge, C.C.<br>Ge, S.P.        | 697-705A                 |
| Geist, D.E.                 | 2931-2939A               |
|                             | 200. 2000A               |
|                             |                          |

|   | Gejima, F.                                   |  |                                 |                          |                                 |                          |                                | Volume 30                |
|---|--|--|---------------------------------|--------------------------|---------------------------------|--------------------------|--------------------------------|--------------------------|
| ( | Gejima, F.                                   | 2721-2723A                             | Hersman, L.                     | 2129-2134A               | Kagawa, Y.                      | 221-229A                 | Kumagai, T.                    | 3089-3097A               |
|   | Gell, M.                                     | 427-435A                               | Higashida, K.                   | 1185-1191A               |                                 | 653-666A                 | Kumar, L.                      | 41-52A                   |
|   | Gemelli, E.<br>German, R.M.                  | 3263-3265A<br>465-470A                 | Higuchi, KI.<br>Hillert, M.     | 671-683B<br>1635-1641A   | Kageyama, R.                    | 3019-3024A<br>331-339B   | Kuo, K.H.<br>Kuramasu, Y.      | 697-705A<br>839-844A     |
| , | definali, M.W.                               | 2201-2208A                             | Hilpert, K.                     | 1315-1326A               | Kailasam, S.K.                  | 1541-1547A               | Kuribayashi, K.                | 99-105B                  |
|   |  | 2209-2220A                             | Hino, M.                        | 671-683B                 |                                 | 2605-2610A               |                                | 779-790B                 |
|   | 011-1/                                       | 3211-3217A                             | Hirao, K.                       | 3009-3011A               | Kainuma, R.                     | 2721-2723A               | W M                            | 1333-1339A               |
|   | Ghosh, A.K.<br>Ghosh, G.                     | 1411-1424A<br>5-18A                    | Hirose, A.<br>Hisayuki, K.      | 2115-2120A<br>3009-3011A | Kakehi, K.<br>Kalidindi, S.R.   | 1249-1259A<br>1223-1233A | Kurosawa, N.<br>Kurz, W.       | 2115-2120A<br>3167-3175A |
| , | ariosii, a.                                  | 501-512A                               | Hofmeister, W.                  | 1675A                    | Kalyanasundaram, P.             | 2067-2072A               | Kusabiraki, K.                 | 1923-1931A               |
|   |  | 1481-1494A                             | Hoglund, L.                     | 1635-1641A               | Kanari, N.                      | 383-391B                 |                                | 2843-2852A               |
|   | Gialanella, S.<br>Gibala, R.                 | 2019-2026A<br>991-1001A                | Hojo, M.<br>Holden, T.M.        | 2713-2720A<br>1797-1808A |                                 | 567-576B<br>577-587B     | Kutumba Rao, V.V.<br>Kuze, T.  | 789-798A<br>483-485A     |
| , | dibaia, rt.                                  | 1003-1015A                             | Holz, R.                        | 1047-1051A               |                                 | 1009-1015B               | Kwon, H.                       | 2999-3007A               |
|   | Gilbert, C.J.                                | 1739-1753A                             | Hong, J.H.                      | 887-890A                 | Kang, C.G.                      | 2967-2977A               | Kwon, J.W.                     | 377-386A                 |
|   | Gilbert, M.                                  | 67-74B                                 | Hong, K.T.                      | 3265A                    | Kang, SB.                       | 2523-2538A               | Kwon, SJ.                      | 1211-1221A               |
|   | Glazov, M.V.<br>Glicksman, M.E.              | 387-397A<br>1541-1547A                 | Hong, L.<br>Hong, MH.           | 1003-1008B<br>627-632A   | Kang, SJ.L.<br>Kang, S.Y.       | 2027-2035A<br>81-92A     | Kwon, S.C.                     | 3131-3141A<br>887-890A   |
|   |  | 2605-2610A                             | Hong, M.H.                      | 717-727A                 | Kaptay, G.                      | 1887-1894A               | Kwon, Y.N.                     | 2037-2047A               |
|   | 0-bi- D                                      | 3177-3190A                             | Hono, K.                        | 345-353A                 | Karasev, A.                     | 249-257B                 | L'Espérance, G.                | 681-695A                 |
| , | Gobin, D.                                    | 613-622B<br>1107B                      | Horita, Z.                      | 717-727A<br>1989-1997A   | Karnezis, P.A.                  | 259-270B<br>1341-1356A   | Labudovic, M.<br>Lacombe, J.C. | 1597-1603A<br>2605-2610A |
|   | Goetz, R.L.                                  | 1411-1424A                             | Horstemeyer, M.                 | 3079-3088A               | Kasik, N.                       | 981-989A                 | Edecimbe, 5.5.                 | 3177-3190A               |
|   | Gofortgh, R.E.                               | 1425-1435A                             | Houver, I.                      | 1275-1282A               | Kassner, M.E.                   | 777-779A                 | Lal, A.                        | 2201-2208A               |
|   | Gokhale, A.M.                                | 2369-2381A                             | Hsieh, S.H.<br>Hsu, Y.F.        | 437-448A                 | Katayama V                      | 2383-2389A               | Lan, X.K.                      | 957-967B                 |
|   | Goldstein, D.A.<br>Gopalakrishnan, N.        | 945-956B<br>1047-1051A                 | Hu, GX.                         | 729-739A<br>2297-2303A   | Katayama, Y.<br>Kath, D.        | 345-353A<br>1315-1326A   | Laneri, K.<br>Langdon, T.G.    | 2745-2752A<br>315-324A   |
| ( | Goto, D.M.                                   | 2835-2842A                             | Hu, H.                          | 1679-1682A               | Kato, E.                        | 2449-2453A               | g,                             | 1989-1997A               |
|   | Govindarajan, S.                             | 799-806A                               | Hu, H.M.                        | 1381-1389A               | Katsumata, A.                   | 671-683B                 | Language V                     | 2059-2066A               |
| , | Goyeau, B.                                   | 613-622B<br>1107B                      | Hu, J.<br>Hu, Z.                | 2229-2235A<br>1755-1761A | Kattamis, T.Z.<br>Kawabatra, H. | 1119-1136A<br>53-59B     | Langsrud, Y.<br>Lanza, R.C.    | 2135-2146A<br>1403-1409A |
|   | Gray, G.T., III                              | 1235-1247A                             | Hu, Z.Q.                        | 513-520A                 | Kawamoto, M.                    | 53-59B                   | Laplante, S.                   | 1137-1146A               |
|   | Greene, C.A.                                 | 1675-1679A                             | H 0.0                           | 2251-2254A               | Ke, T.S.                        | 2267-2295A               | Larouk, Z.                     | 2049-2058A               |
|   | Gregorutti, R.<br>Gremaud, M.                | 2745-2752A<br>449-455A                 | Huang, C.C.<br>Huang, J.C.      | 643-651A<br>53-64A       | Kecskes, L.J.<br>Khan, A.Q.     | 2483-2489A<br>670-675A   | Larsen, J.M.<br>Larson, H.R.   | 287-299A<br>307-321B     |
|   | Griffiths, J.R.                              | 2611-2618A                             | Huang, X.                       | 1755-1761A               | Khan, T.I.                      | 1597-1603A               | Lau, K.C.                      | 2551-2555A               |
|   | Griffiths, W.D.                              | 473-482B                               | Hultgren, C.A.                  | 1675-1679A               | Kharin, V.                      | 1882-1885A               | Lavernia, E.J.                 | 527-539B                 |
|   | Griffo, A.<br>Grona, Ø.                      | 3231-3238A<br>1053-1068A               | Hunziker, O.<br>Husain, S.W.    | 3167-3175A<br>1529-1534A | Khodadadi, J.M.<br>Kim, CU.     | 957-967B<br>1503-1515A   |                                | 1381-1389A<br>1679-1682A |
|   | Cirong, C.                                   | 1069-1079A                             | Hussain, K.                     | 670-675A                 | Kim, C.J.                       | 2649-2657A               | Leap, M.J.                     | 93-114A                  |
|   |  | 2667-2677A                             | Hwang, KC.                      | 1933-1943A               | Kim, DK.                        | 81-92A                   | Lebo, M.R.                     | 1579-1596A               |
|   | Countacti I.E.                               | 2915-2929A                             | Hytros, M.M.                    | 1403-1409A               |                                 | 1261-1273A               | Ledbetter, H.                  | 203-212A                 |
|   | Gruzleski, J.E.<br>Gu, J.P.                  | 1027-1032B<br>1357-1366A               | lacocca, R.G.<br>Ichise, E.     | 2201-2208A<br>419-427B   | Kim, EP.                        | 2027-2035A<br>627-632A   | Lee, BJ.<br>Lee, B.S.          | 1503-1515A<br>887-890A   |
|   | Gu, S.R.                                     | 685-688B                               | Iguchi, M.                      | 53-59B                   | Kim, J.H.                       | 1495-1501A               | Lee, C.G.                      | 234-243A                 |
|   | Gu, X.M.                                     | 685-688B                               |                                 | 61-66B                   | Kim, J.K.                       | 361-367B                 | Lee, H.B.                      | 437-448A                 |
|   | Gu, Y.F.<br>Guan, H.R.                       | 2629-2639A<br>513-520A                 | lischner, B.                    | 631-637B<br>981-989A     | Kim, N.J.                       | 369-373B<br>2254-2258A   | Lee, H.C.<br>Lee, H.M.         | 399-409A<br>1503-1515A   |
|   | Cidari, Filit.                               | 2251-2254A                             | Inal, M.Y.                      | 2191-2199A               | Kim, SH.                        | 435-442B                 | Lee, JM.                       | 2523-2538A               |
|   | Guan, Q.                                     | 2229-2235A                             | Inoue, T.                       | 2713-2720A               | Kim, S.G.                       | 807-813A                 | Lee, J.S.                      | 807-813A                 |
|   | Guilemany, J.M.<br>Bundersen, Ø.             | 1913-1921A<br>1053-1068A               | Irons, G.A.<br>Isaak, D.G.      | 241-247B                 | Kim, S.S.                       | 2097-2102A               | Lee, K.B.                      | 2999-3007A               |
| , | pullueisell, ib.                             | 1069-1079A                             | Ishida, K.                      | 2403-2408A<br>2721-2723A |                                 | 2254-2258A<br>2649-2657A | Lee, K.J.<br>Lee, M.K.         | 81-92A<br>961-968A       |
|   | Guo, S.Q.                                    | 221-229A                               | Ito, K.                         | 143-144B                 | Kim, W.T.                       | 807-813A                 | Lee, S.                        | 81-92A                   |
|   |  | 653-666A<br>3019-3024A                 | Ito, S.                         | 827-829B                 | Kim, W.W.                       | 961-968A                 |                                | 234-243A                 |
| , | Guo, X.                                      | 2843-2852A                             | lyengar, G.N.K.                 | 741-749A<br>865-871B     | Kitabjian, P.H.<br>Kitou, M.    | 587-600A<br>419-427B     |                                | 399-409A<br>1211-1221A   |
|   | Guo, Z.                                      | 2229-2235A                             | Izawa, N.                       | 839-844A                 | Kivilahti, J.                   | 123-132A                 |                                | 1261-1273A               |
|   | Gupta, A.K.                                  | 879-884A                               | Jablokov, V.                    | 2835-2842A               | Kluken, A.O.                    | 2667-2677A               |                                | 2027-2035A               |
|   | Gupta, C.K.<br>Gupta, V.V.                   | 205-213B<br>527-539B                   | Jackson, M.P.<br>Jacob, K.T.    | 521-533A<br>865-871B     | Kmecko, I.<br>Knaul, D.A.       | 1597-1603A<br>949-959A   |                                | 3131-3141A<br>3143-3151A |
|   | Guthrie, R.I.L.                              | 349-352B                               | Jak, E.                         | 21-27B                   | Knorovsky, G.A.                 | 107-117B                 | Lee, W.J.                      | 961-968A                 |
|   |  | 541-543B                               |                                 | 597-605B                 | Kobayashi, K.F.                 | 2115-2120A               | Lee, W.Y.                      | 2679-2687A               |
|   | Haarberg, T.                                 | 891-900B<br>341-348B                   | Janakiraman, R.                 | 1017-1026B<br>2905-2913A | Kobayashi, S.<br>Kobayashi, Y.  | 2783-2789A<br>352-354B   | Lee, YK.<br>Lee, Y.S.          | 2325-2330A<br>2331-2339A |
|   | Hack, J.E.                                   | 155-159A                               | Jansen, A.M.                    | 829-838A                 | Koeppel, B.J.                   | 2641-2648A               | Lee, Z.H.                      | 1679-1682A               |
|   | Hajra, J.P.                                  | 429-433B                               | Jasiuk, I.                      | 195-201A                 | Kojima, T.                      | 15-20B                   | Lege, D.J.                     | 387-397A                 |
|   | Hall, J.A.                                   | 287-299A<br>2383-2389A                 | Jayakumar, T.<br>Jena, P.K.     | 2067-2072A<br>375-381B   | Kokawa, H.                      | 2429-2437A<br>3125-3130A | Legros, N.<br>Leng, Y.         | 1137-1146A<br>2885-2893A |
|   | Hamano, T.                                   | 827-829B                               | Jensen, E.K.                    | 2135-2146A               | Kolenda, Z.                     | 505-513B                 | Long, 1.                       | 2895-2904A               |
|   | Han, B.Q.                                    | 829-838A                               | Jerina, K.L.                    | 255-266A                 | Kon-No, N.                      | 671-683B                 | Lesuer, D.R.                   | 1559-1568A               |
|   | Han, F.<br>Han, J.W.                         | 771-776A<br>215-221B                   | Jiang, MF.<br>Jiang, W.H.       | 451-457B<br>513-520A     | Kongoli, F.                     | 431-450B                 | Leucht, R.<br>Levashov, E.A.   | 2713-2720A               |
|   | Han, Q.                                      | 745-750B                               | olarig, vv.ri.                  | 513-520A                 | Konishi, Y.                     | 831B<br>99-105B          | Levin, B.F.                    | 2439-2447A<br>1763-1774A |
|   | Han, S.Z.                                    | 2649-2657A                             |                                 | 2251-2254A               |                                 | 779-790B                 | Levin, L.                      | 3201-3210A               |
|   | Han, Y.F.<br>Handle, B.                      | 884-887A<br>5-13B                      | lin C - I                       | 2251-2254A               | Konitzer, D.G.                  | 1025-1038A               | Lewandowski, J.J.              | 325-334A                 |
|   | Harada, H.                                   | 2629-2639A                             | Jin, CJ.<br>Jin, Z.             | 451-457B<br>1785-1795A   | Kosaka, H.<br>Kosaka, Y.        | 53-59B<br>2383-2389A     | Lexa, D.<br>Li, BY.            | 147-153A<br>2753-2756A   |
|   | Harada, T.N.                                 | 403-410B                               |                                 | 2735-2744A               | Koss, D.A.                      | 2835-2842A               | Li, B.J.                       | 917-923A                 |
|   | Härkki, K.                                   | 75-98B                                 | Jogan, S.                       | 2429-2437A               | Koss, M.B.                      | 3177-3190A               | Li, C.                         | 1017-1024A               |
|   | Harmon, D.                                   | 255-266A<br>287-299A                   | Jonas, J.J.                     | 3125-3130A<br>3045-3054A | Kosyakov, V.I.<br>Koul, A.K.    | 715-722B<br>1039-1045A   | Li, D.<br>Li, H.J.             | 3011-3016A<br>213-219A   |
|   | Hashimoto, T.                                | 3125-3130A                             | Jones, J.W.                     | 3055-3068A               | Kovacevic, R.                   | 791-801B                 | Li, H.J.                       | 825-828A                 |
|   | Hayashi, A.                                  | 53-59B                                 | Jonsson, L.                     | 979-985B                 |                                 | 1597-1603A               | Li, LF.                        | 451-457B                 |
|   | Hayashi, H.<br>Hayes, P.C.                   | 623-630B<br>21-27B                     | Jordan, E.<br>Jorgensen, F.R.A. | 427-435A<br>393-401B     | Koyama, T.<br>Kozeschnik, E.    | 2783-2789A<br>1663-1673A | Li, M.<br>Li, Q.               | 2941-2949A<br>1147-1151A |
|   | ,  | 597-605B                               | Juhl, T.W.                      | 1817-1826A               | NOZEGOTIHA, E.                  | 2575-2582A               | LI, G.                         | 1153-1157A               |
|   | Hauman I A                                   | 1017-1026B                             | Jun, JH.                        | 667-670A                 | Kudoh, M.                       | 1605-1612A               | Li, T.X.                       | 2979-2988A               |
|   | Haynes, J.A.                                 | 2679-2687A                             | Jung, H.K.                      | 2967-2977A               | Kuhlmann-Wilsdorf, D.           | 2391-2401A               | Li, Y.                         | 315-324A                 |
|   |  | 2853-28634                             | Jung SW                         |                          |                                 |                          |                                | 405 504D                 |
|   | Helbert, A.L.<br>Hemmer, H.<br>Herlach, D.M. | 2853-2863A<br>2915-2929A<br>3011-3016A | Jung, SW.<br>Jung, Y.C.         | 2027-2035A<br>2649-2657A | Kulkarni, N.                    | 2491-2501A<br>3265A      |                                | 495-504B<br>2059-2066A   |

| Li, Z.                        | 203-212A<br>2757-2766A   | Medrano, A.M.<br>Meier, G.H. | 1177-1184A<br>2905-2913A | Okamoto, T.                       | 2463-2472A<br>483-485A   | Rhu, J.C.<br>Rice-Evans, P.C. | 2649-2657A<br>2931-2939A |
|-------------------------------|--------------------------|------------------------------|--------------------------|-----------------------------------|--------------------------|-------------------------------|--------------------------|
| Liang, K.M.                   | 685-688B                 | Menad, N.                    | 567-576B                 | Okumura, K.                       | 1003-1008B               | Richards, N.L.                | 1717-1726A               |
| Liaw, P.K.                    | 1449-1452A               | Meng, G.W.                   | 213-219A                 | Oliver, W.C.                      | 601-610A                 | Richmond, O.                  | 387-397A                 |
|                               | 1569-1578A               | Mercader, R.C.               | 2745-2752A               | Olson, G.B.                       | 501-512A                 | Riemelmoser, F.O.             | 1452-1459A               |
| Lin, C.S.                     | 437-448A                 | Mercer, C.                   | 1025-1038A               | Ono, K.                           | 403-410B                 | Ritchie, R.O.                 | 563-577A                 |
| Lin, G.                       | 3239-3251A               | Messler, R.W., Jr.           | 115-122A                 | Onodera, R.                       | 1185-1191A               |                               | 633-642A                 |
| Lin, JH.                      | 1119-1136A               | Meyer-Olbersleben, F.        | 981-989A                 | Onsøien, M.I.                     | 1053-1068A               |                               | 1739-1753A               |
| Lin, SJ.                      | 1119-1136A               |                              | 981-989A                 |                                   | 1069-1079A               | Riveros, P.A.                 | 993-1001B                |
| Liu, C.                       | 771-776A                 | Michaud, V.J.                | 471-482A                 | Oren, E.E.                        | 1089-1093B               | Ro, Y.                        | 2629-2639A               |
| Liu, C.T.                     | 1449-1452A               | Miehe, G.                    | 2121-2127A               | Orrú, R.                          | 1101-1108A               | Roatta, A.                    | 2875-2884A               |
| Liu, J.                       | 2209-2220A               | Miettinen, J.                | 75-98B                   | Osiyemi, S.O.                     | 1867-1876A               | Roberts, S.M.                 | 1797-1808A               |
| 12. 1                         | 3211-3217A               | Miguel, J.R.                 | 1913-1921A               | Oveçoglu, M.L.                    | 751-761A                 | Robino, C.V.                  | 107-117B                 |
| Liu, L.                       | 1097-1100A               | Miki, Y.                     | 639-654B                 | Ovejero, E.                       | 1882-1885A               | Rodriguez, A.S.               | 1177-1184A               |
| Liu, N.                       | 21-27B                   | Milke, J.G.                  | 949-959A                 | Ozaki, T.                         | 45-51B                   | Rogez, J.                     | 67-74B                   |
| Liu, T.F.                     | 1705-1716A               | Mills, W.J.                  | 1579-1596A               | Ozturk, B.                        | 29-43B                   | Rohatgi, P.K.                 | 361-367B                 |
| Liu, W.                       | 685-688B<br>31-40A       | Min, D.J.                    | 215-221B                 | Pabi, S.K.                        | 2563-2573A               | Dana I I                      | 369-373B                 |
| Liu, W.C.<br>Liu, Y.          | 1275-1282A               |                              | 689-694B<br>1045-1052B   | Page, T.F.<br>Pal, U.             | 2931-2939A               | Rong, LJ.                     | 2753-2756A               |
| Liu, YF.                      | 221-229A                 | Minamino, Y.                 | 3009-3011A               | rai, O.                           | 295-306B<br>307-321B     | Rong, Y.<br>Ruano, O.A.       | 2297-2303A<br>371-376A   |
| Liu, Z.                       | 2757-2766A               | Miracle, D.B.                | 301-306A                 |                                   | 515-525B                 | Rusten, T.                    | 135-142B                 |
| Liu, ZK.                      | 1081-1095A               | Will dolo, D.D.              | 2305-2323A               | Pal, U.B.                         | 877-889B                 | Saccone, A.                   | 1169-1176A               |
| Llorca, J.                    | 845-855A                 |                              | 2349-2367A               | Papamantellos, K.                 | 2619-2627A               | Sachdev, A.K.                 | 815-824A                 |
| Liorda, o.                    | 857-867A                 | Mirshams, R.A.               | 2803-2808A               | Pape, J.A.                        | 1289-1300A               | Oddingov, A.re.               | 1835-1841A               |
|                               | 869-878A                 | Mishra, K.G.                 | 223-229B                 | Paramguru, R.K.                   | 223-229B                 | Sai, P.S.T.                   | 969-977B                 |
| Lloyd, D.J.                   | 879-884A                 | Misra, A.                    | 991-1001A                | Park, J.H.                        | 689-694B                 | Saji, S.                      | 1923-1931A               |
| Lockwood, G.                  | 3231-3238A               |                              | 1003-1015A               | ,                                 | 1045-1052B               | Saka, N.                      | 1403-1409A               |
| Lopez, H.                     | 611-620A                 | Mitlin, D.                   | 115-122A                 | Park, J.W.                        | 399-409A                 | Sakata, K.                    | 1053-1063B               |
| Lopez, H.F.                   | 927-932B                 | Mittemeijer, E.J.            | 1945-1953A               | Parrini, L.                       | 2865-2873A               | Salas, D.                     | 2539-2545A               |
|                               | 2419-2428A               | Miura, H.                    | 483-485A                 | Paschen, P.                       | 5-13B                    | Salvi, R.                     | 335-343A                 |
| Lourdudoss, S.                | 1047-1051A               | Miyazaki, S.                 | 1275-1282A               | Patel, A.M.                       | 1289-1300A               | Sangsuwan, P.                 | 933-944B                 |
| Lovell, M.R.                  | 2619-2627A               | Miyazaki, T.                 | 2783-2789A               | Patt, W.                          | 2147-2158A               | Sano, M.                      | 631-637B                 |
| Lowhaphandu, P.               | 325-334A                 | Mizukami, H.                 | 53-59B                   | Paul, V.T.                        | 161-174A                 |                               | 1003-1008B               |
| Lu, L.                        | 1097-1100A               | Mo, A.                       | 135-142B                 | Pedersen, A.S.                    | 1817-1826A               | Sanuki, S.                    | 15-20B                   |
| Lu, W.                        | 1933-1943A               |                              | 2455-2462A               | Pekelharing, M.I.                 | 1945-1953A               |                               | 197-203B                 |
| Lu, X.                        | 1785-1795A               | Mo, C.M.                     | 213-219A                 | Pelton, A.D.                      | 443-450B                 | Saravanan, R.A.               | 2523-2538A               |
|                               | 2735-2744A               | Mohandas, T.                 | 789-798A                 |                                   | 661-669B                 | Saroja, S.                    | 161-174A                 |
| Lu, Y.                        | 2167-2171A               | Mojica, J.F.                 | 773-778B                 |                                   | 831B                     |                               | 2825-2834A               |
| Lucas, B.N.                   | 601-610A                 | Montero-Ocampo, C.           | 611-620A                 |                                   | 1033-1044B               | Sarutti, J.L.                 | 2745-2752A               |
| Lui, T.S.                     | 1549-1558A               | Monzen, R.                   | 483-485A                 | Peng, CH.                         | 2503-2512A               | Sasmal, B.                    | 2791-2801A               |
|                               | 1775-1784A               | Moon, IH.                    | 627-632A                 | Peralta, A.                       | 287-299A                 | Sato, Y.S.                    | 2429-2437A               |
|                               | 2258-2260A               | Moore, J.J.                  | 799-806A                 | Perry, A.J.                       | 2931-2939A               |                               | 3125-3130A               |
| Lumley, R.N.                  | 457-463A                 | Mana IT                      | 2439-2447A               | Pesl, J.                          | 695-705B                 | Saxen, H.                     | 323-330B                 |
| Lund, C.                      | 1682-1685A               | Moore, J.T.<br>Moorthy, V.   | 2491-2501A<br>2067-2072A | Pettit, F.S.                      | 2905-2913A               | Schaffer, G.B.                | 1643-1650A               |
| Luo, XH.                      | 2989-2997A<br>2753-2756A | Mori, K.                     | 279-286B                 | Pfuff, M.<br>Pike, L.M.           | 1203-1209A<br>1449-1452A |                               | 1651-1655A<br>1657-1662A |
| Lupis, C.H.P.                 | 841-856B                 | Morizane, Y.                 | 29-43B                   | Pilkington, R.                    | 2049-2058A               |                               | 1682-1685A               |
| Lusk, M.T.                    | 2325-2330A               | Mortensen, A.                | 471-482A                 | Pint, B.A.                        | 2679-2687A               | Schaffer, G.M.                | 457-463A                 |
| Lyttle, M.T.                  | 1283-1288A               | Wortensen, A.                | 1843-1866A               | Pippan, R.                        | 1452-1459A               | Schalin, M.                   | 1635-1641A               |
| Ma, C.Y.                      | 551-561A                 | Mortensen, D.                | 119-133B                 | Pistorius, P.C.                   | 823-826B                 | Schmidt, H.                   | 2121-2127A               |
| Ma, M.                        | 1147-1151A               | Muhammad, W.                 | 670-675A                 | Pletenev, V.                      | 1663-1673A               | Schminke, A.                  | 2121-2127A               |
| ivici, ivi.                   | 1153-1157A               | Mukai, K.                    | 1065-1074B               | Poirier, D.R.                     | 2173-2181A               | Schroeder, B.                 | 307-321E                 |
| Ma, Z.                        | 3103-3110A               | Mukhopadhyay, A.K.           | 1693-1704A               | 1 0.1101, 0.11.                   | 2659-2666A               | Schroeder, V.                 | 1739-1753A               |
| Macciò, D.                    | 1169-1176A               | Mukhopadhyay, P.             | 41-52A                   | Poza, P.                          | 845-855A                 | Schuster, J.C.                | 2409-2418A               |
| Machida, KI.                  | 45-51B                   | Munir, Z.A.                  | 1101-1108A               |                                   | 857-867A                 | Schwartz, L.H.                | 157-170B                 |
| Maeda, M.                     | 921-925B                 | Murayama, M.                 | 345-353A                 |                                   | 869-878A                 |                               | 895-908A                 |
| Maekawa, S.                   | 3069-3078A               | Murthy, V.S.R.               | 2951-2958A               | Prasad, G.E.                      | 41-52A                   | Schwerdtfeger, K.             | 411-418B                 |
| Magnan, J.                    | 19-29A                   | Myhr, O.R.                   | 2667-2677A               | Prasad, N.                        | 2547-2549A               |                               | 655-660B                 |
| Magnin, T.                    | 1327-1331A               | Mythili, R.                  | 161-174A                 | Prikhodko, S.V.                   | 2403-2408A               | Scully, J.R.                  | 65-79A                   |
| Maier, H.J.                   | 133-146A                 | Na, Y.S.                     | 521-533A                 | Proskurovsky, D.I.                | 2931-2939A               | Seetharaman, S.               | 901-908B                 |
| Maijer, D.                    | 2147-2158A               | Nagai, K.                    | 2221-2228A               | Pryds, N.H.                       | 1817-1826A               |                               | 909-920B                 |
| Majima, H.                    | 15-20B                   | Nagaoka, S.                  | 15-20B                   | Qamar, I.                         | 1529-1534A               | Seetharaman, V.               | 1411-1424A               |
|                               | 197-203B                 | Nagarajan, K.                | 459-464B                 | Qin, Y.                           | 213-219A                 |                               | 2305-2323A               |
| Majumdar, B.S.                | 277-286A                 | Nagasaka, T.                 | 671-683B                 |                                   | 1097-1100A               | Segal, V.M.                   | 1425-1435A               |
|                               | 301-306A                 | Nagata, K.                   | 1971-1979A               | Quintard, M.                      | 613-622B                 | Sehitoglu, H.                 | 133-146A                 |
|                               | 2305-2323A               | Nagle, D.C.                  | 781-788A                 |                                   | 1107B                    | Sekhar, J.A.                  | 171-188B                 |
| Makhlouf, M.M.                | 1535-1540A               | Nakahiro, Y.                 | 99-105B                  | Raeder, C.H.                      | 115-122A                 | Semiatin, S.L.                | 1391-1402A               |
| Maki, T.                      | 827-829B                 | Nakai, K.                    | 741-749A                 | Raghunathan, V.S.                 | 161-174A                 |                               | 1411-1424A               |
| Mall, S.                      | 307-313A                 | Nakamura, KI.                | 631-637B                 | Raj, B.                           | 2067-2072A               |                               | 1425-1435A               |
| Mangan, M.A.                  | 2767-2781A               | Nakamura, M.                 | 3089-3097A               | Ramakrishnan, V.                  | 969-977B                 |                               | 2473-2481A               |
| Mani, S.S.                    | 1541-1547A               | Nakao, R.                    | 3009-3011A               | Ramamurty, U.                     | 2237-2248A               |                               | 3219-3229A               |
| Manna, I.                     | 2563-2573A               | Nakazawa, S.                 | 393-401B                 | Raman, A.                         | 2803-2808A               | Senkov, O.N.                  | 751-761A                 |
| Mannan, S.L.                  | 2825-2834A               | Nam, S.W.                    | 887-890A                 | Raman, R.K.S.                     | 2103-2113A               | Sercombe, T.B.                | 457-463A                 |
| Marder, A.R.                  | 1763-1774A               | Nelson, L.S.                 | 1083-1088B               | Ramesh, A.                        | 2249-2251A               | Sha, W.                       | 1885-1887A               |
| Martinez, L.                  | 2419-2428A               | Nemoto, M.                   | 1989-1997A               | Rao, K.B.S.                       | 2825-2834A               | Shan, Z.                      | 2885-2893A               |
| Maruyama, B.                  | 267-275A                 | Neu, R.W.                    | 1289-1300A               | Rao, P.R.V.                       | 459-464B                 | Strate O.B                    | 2895-2904A               |
| Mason, T.A.                   | 969-979A                 | Nielsen, O.                  | 2455-2462A               | Rapp, R.A.                        | 495-504B                 | Shastry, C.R.                 | 3031-3044A               |
| Masuda, C.                    | 221-229A                 | Nishida, Y.                  | 839-844A                 | Rappaz, M.                        | 449-455A                 | Shaw, L.L.                    | 1109-1117A               |
| Mathieu, J.C.                 | 67-74B                   | Nix, W.D.                    | 587-600A                 | Day V.V                           | 3153-3165A               | Chall E.P.                    | 2549-2551A               |
| Matossian, J.N.               | 2931-2939A               | Noebe, R.D.                  | 587-600A<br>1003-1015A   | Ray, K.K.                         | 1193-1202A               | Shell, E.B.                   | 1411-1424A<br>3219-3229A |
| Matsui, T.                    | 419-427B                 | Nob 1 W                      | 2027-2035A               | Reddy, B.P.<br>Reed, R.C.         | 459-464B                 | Shen, P.                      | 2229-2235A               |
| Matsumoto, Y.                 | 197-203B                 | Noh, JW.<br>Notis, M.R.      | 707-716A                 | need, n.C.                        | 521-533A<br>1797-1808A   | Sheng, D.Y.                   | 979-985B                 |
| Matsunaga, T.                 | 403-410B<br>1605-1612A   | Notis, M.H.<br>Nzotta, M.M.  | 707-716A<br>909-920B     | Reinikainen, T.                   | 1/9/-1808A<br>123-132A   | Sherby, O.D.                  | 1559-1568A               |
| Matsuura, K.<br>Matsuzaki, K. | 143-144B                 | O'Dell, S.P.                 | 2159-2165A               | Reisner, G.                       | 2583-2590A               | Shestakov, V.A.               | 715-722B                 |
| watsuzaki, N.                 | 827-829B                 | Ochiai, S.P.                 | 2713-2720A               | Ren. R.                           | 1109-1117A               | Sheveiko, A.N.                | 2439-2447A               |
| Mazumdar, D.                  | 349-352B                 | Oh, K.H.                     | 377-386A                 | Reuter, M.A.                      | 607-611B                 | Shiao, F.T.                   | 1775-1784A               |
| wazumat, D.                   | 541-543B                 | Oh, S.                       | 234-243A                 | Reye, J.                          | 2167-2171A               | Shibata, E.                   | 279-286B                 |
|                               | 891-900B                 | Oh, Y.J.                     | 887-890A                 | rieye, o.                         | 2463-2472A               | Shibata, S.                   | 621-626A                 |
|                               | 001-3000                 |                              |                          | Describe MAT In                   |                          |                               |                          |
|                               |                          | Ohmori, Y                    | 741-7494                 | Heynolds VV I .Ir                 | /1/-/2/A                 | Shiffet, G.J.                 | 2/6/-2/81A               |
| McCoy, H.E., Jr.              | 2951-2958A<br>1569-1578A | Ohmori, Y.<br>Ohsasa, K.     | 741-749A<br>1605-1612A   | Reynolds, W.T., Jr.<br>Rhee, C.K. | 717-727A<br>961-968A     | Shiflet, G.J.<br>Shih, W.     | 2767-2781A<br>175-181A   |

| ,                  |                          |                   |                      |                                 |                        |                    |                        |
|--------------------|--------------------------|-------------------|----------------------|---------------------------------|------------------------|--------------------|------------------------|
| Shin, K.S.         | 2097-2102A<br>2254-2258A | Tacke, KH.        | 751-761B<br>763-772B | Van Sandwijk, A.<br>Varma, S.K. | 607-611B<br>2539-2545A | Xu, Q.             | 527-539B<br>1717-1726A |
| Shoales, G.A.      | 465-470A                 | Takamura, Y.      | 1333-1339A           | Vecchio, K.S.                   | 355-362A               | Xu, S.             | 1039-1045A             |
|                    |                          |                   | 411-416A             | Veccilio, R.S.                  | 1235-1247A             |                    |                        |
| Shtansky, D.V.     | 2439-2447A               | Takeda, T.        |                      |                                 |                        | Xu, Y.             | 2723-2726A             |
| Shu, D.            | 2979-2988A               |                   | 3069-3078A           |                                 | 1763-1774A             | Xu, Z.             | 189-195B               |
| Sichen, D.         | 909-920B                 | Talamantes, J.    | 773-778B             | Velasco, E.                     | 773-778B               | Yamabe-Mitarai, Y. | 2629-2639A             |
| Sikka, V.K.        | 335-343A                 | Talavera, M.      | 611-620A             | Venkatachalam, S.               | 205-213B               | Yamaguchi, K.      | 671-683B               |
| Simon, D.          | 515-525B                 | Tamura, M.        | 873-875B             | Venkateswara Rao,               |                        | Yamaguchi, T.      | 143-144B               |
| Singh, M.          | 933-944B                 | Tanaka, Y.        | 221-229A             | K.T.                            | 563-577A               | Yamanaka, N.       | 3253-3261A             |
| Singh, N.          | 2547-2549A               | Tang, N.Y.        | 144-148B             |                                 | 633-642A               | Yamane, T.         | 3009-3011A             |
| Singh, V.          | 2547-2549A               | Tarui, T.         | 717-727A             | Viadya, R.U.                    | 2129-2134A             |                    |                        |
| Sinyakova, E.F.    | 715-722B                 | Tas. A.C.         | 1089-1093B           | Vijayalakshmi, M.               | 161-174A               | Yamaoka, H.        | 2115-2120A             |
|                    |                          | Tatemichi, H.     | 61-66B               | Viswanathan, S.                 | 745-750B               | Yamasue, E.        | 1971-1979A             |
| Sivashanker, S.    | 1867-1876A               |                   |                      | Voller, V.R.                    | 2183-2189A             | Yang, G.           | 2941-2949A             |
| Skaland, T.        | 1053-1068A               | Tauqir, A.        | 670-675A             | voller, v.n.                    |                        | Yang, H.           | 2403-2408A             |
|                    | 1069-1079A               | Taylor, J.        | 2931-2939A           |                                 | 3016-3019A             | Yang, H.T.Y.       | 815-822B               |
| Smith, T.J.        | 133-146A                 | Taylor, J.A.      | 1643-1650A           | Von Grossmann, B.               | 1880-1882A             | Yang, N.           | 3079-3088A             |
| Snyder, V.A.       | 2341-2348A               |                   | 1651-1655A           | Voorhees, P.W.                  | 1955-1969A             | Yang, S.           | 2369-2381A             |
| Soboyejo, W.       | 495-504B                 |                   | 1657-1662A           |                                 | 2341-2348A             |                    |                        |
| Soboyejo, W.O.     | 1025-1038A               | Tennenhouse, L.A. | 3177-3190A           | Wadley, H.N.G.                  | 2689-2699A             | Yang, Z.           | 483-493B               |
| Sohn, Y.H.         | 535-543A                 | Terauchi, Y.      | 53-59B               | Wagoner, R.H.                   | 2073-2087A             |                    | 1109-1117A             |
| Soltani-Farshi, M. | 2121-2127A               | Tewari, S.N.      | 175-181A             | Wall, M.A.                      | 777-779A               | Yao, M.            | 31-40A                 |
| Somers, M.A.J.     | 1945-1953A               | Tottani, onti     | 933-944B             | Wang, J.                        | 2979-2988A             | Yao, X.D.          | 513-520A               |
| Sommer, J.L.       | 471-482A                 |                   | 2159-2165A           | Wang, Q.G.                      | 2611-2618A             | Yazawa, A.         | 393-401B               |
|                    |                          |                   | 2167-2171A           |                                 | 271-277B               | Ye, F.             | 1025-1038A             |
| Song, B.           | 435-442B                 |                   |                      | Wang, W.                        |                        | Yeh, JW.           | 2503-2512A             |
| Song, HS.          | 1261-1273A               | W1 . 0 1 A1 A1    | 2463-2472A           | Wang, WZ.                       | 451-457B               | Yokokawa, T.       | 2629-2639A             |
| Soral, P.          | 307-321B                 | Thadhani, N.N.    | 1367-1379A           | Wang, W.H.                      | 729-739A               |                    |                        |
| Srisukhumboworn-   |                          | Thevik, H.        | 2455-2462A           | Warrier, S.G.                   | 267-275A               | Yonezawa, K.       | 411-418B               |
| chai, N.           | 751-761A                 | Thevik, H.J.      | 135-142B             |                                 | 277-286A               |                    | 655-660B               |
| Srivatsan, T.S.    | 1025-1038A               |                   | 287-293B             | Wasai, K.                       | 1065-1074B             | Yoon, S.W.         | 1503-1515A             |
| St.John, D.        | 1613-1623A               | Thevoz, P.        | 3153-3165A           | Watanabe, T.                    | 621-626A               | Yu, J.             | 2331-2339A             |
|                    | 1625-1633A               | Thomas, B.G.      | 639-654B             | Watanabe, Y.                    | 3253-3261A             | Yu, L.             | 2463-2472A             |
| St.John, D.H.      | 287-293B                 | Thompson, R.B.    | 1981-1988A           | Wayman, C.M.                    | 729-739A               | Yuan, SY.          | 2503-2512A             |
| Ollowing Divin     | 1643-1650A               | Thonstad, J.      | 341-348B             | Weatherly, G.C.                 | 19-29A                 | Zeng, S.           | 1147-1151A             |
|                    | 1651-1655A               | Tian, C.          | 241-247B             | Wei, R.P.                       | 2297-2303A             | Zerig, S.          | 1153-1157A             |
|                    | 1657-1662A               | Hari, O.          | 891-900B             | Weihs, T.P.                     | 2959-2965A             | Zhana D            |                        |
| Candia E A In      |                          | Tiana C.C         |                      |                                 |                        | Zhang, B.          | 2659-2666A             |
| Starke, E.A., Jr.  | 2491-2501A               | Tjong, S.C.       | 243-248A             | Welham, N.J.                    | 1075-1081B             | Zhang, E.          | 1147-1151A             |
| Stephens, J.J.     | 1301-1313A               | T-1-1 11          | 2551-2555A           | Wen, X.                         | 2723-2726A             |                    | 1153-1157A             |
| Stone, H.J.        | 1797-1808A               | Todaka, H.        | 2115-2120A           | Wen, Y.H.                       | 2583-2590A             | Zhang, J.M.        | 2701-2712A             |
| Straffelini, G.    | 2019-2026A               | Tokunaga, H.      | 61-66B               | Werner, E.A.                    | 2583-2590A             | Zhang, L.D.        | 213-219A               |
| Strangwood, M.     | 2089-2096A               | Tokunaga, T.      | 873-875B             | Wert, J.A.                      | 1283-1288A             |                    | 1097-1100A             |
| Strutt, A.J.       | 355-362A                 | Tomii, Y.         | 99-105B              | White, D.R.                     | 1679-1682A             | Zhang, L.P.        | 2089-2096A             |
| Subhash, G.        | 2641-2648A               | Toribio, J.       | 1882-1885A           | Whittenberger, J.D.             | 1559-1568A             | Zhang, S.Y.        | 213-219A               |
| Sueoka, N.         | 1605-1612A               | Torrkulla, J.     | 323-330B             | Wiggett, S.M.                   | 589-595B               |                    |                        |
| Suito, H.          | 249-257B                 | Tortorici, P.C.   | 545-550A             | Wilkinson, D.S.                 | 241-247B               | Zhang, TY.         | 155-159A               |
| Gaile, Ti.         | 259-270B                 | Tromborg, E.      | 2135-2146A           | Williams, J.S.                  | 1075-1081B             | Zhang, W.J.        | 2591-2598A             |
|                    | 1053-1063B               | Tsai, C.H.        | 417-426A             | Wingert, J.C.                   | 93-114A                | Zhang, X.          | 1827-1833A             |
| Sumino, K.         | 1465-1479A               | Tsujino, R.       | 631-637B             | Winsa, E.A.                     | 3177-3190A             | Zhang, Y.          | 1755-1761A             |
|                    |                          |                   |                      |                                 |                        |                    | 2679-2687A             |
| Sumiyama, K.       | 1877-1880A               | Tsukamoto, S.     | 1827-1833A           | Withers, P.J.                   | 1797-1808A             | Zhao, B.           | 21-27B                 |
| Sun, B.D.          | 2979-2988A               | Tsukihashi, F.    | 352-354B             | Wittkowsky, B.                  | 1203-1209A             |                    | 597-605B               |
| Sun, H.            | 279-286B                 | Tsutsumi, T.      | 1923-1931A           | Wolfsdorf-Brenner, T.L.         |                        |                    | 1017-1026B             |
| Sun, J.            | 2843-2852A               | Tszeng, T.C.      | 1159-1162A           | Woodard, P.R.                   | 815-822B               | Zhao, C.           | 2599-2604A             |
| Sun, L.            | 2549-2551A               | Turenne, S.       | 1137-1146A           | Woolley, D.E.                   | 877-889B               |                    |                        |
| Sun, Z.            | 2757-2766A               | Turner, P.A.      | 2875-2884A           | Wright, B.L.                    | 957-967B               | Zhao, JC.          | 707-716A               |
| Sundararaman, M.   | 41-52A                   | Uan, J.Y.         | 2258-2260A           | Wright, I.G.                    | 2679-2687A             | Zhao, X.Q.         | 884-887A               |
| Sung, P.K.         | 2173-2181A               | Ueda. S.          | 921-925B             | Wu, S.Q.                        | 243-248A               | Zheng, Y.K.        | 685-688B               |
| Suresh, S.         | 763-769A                 | Ul Haq, A.        | 670-675A             |                                 | 2551-2555A             | Zhong, Z.Y.        | 2701-2712A             |
| Suryanarayana, C.  | 799-806A                 | Umezawa, O.       | 2221-2228A           | Wu, W.                          | 417-426A               | Zhou, Y.           | 2941-2949A             |
| Susa, M.           | 1971-1979A               | Upadhyaya, A.     | 2209-2220A           | Wu, XJ.                         | 1039-1045A             | Zhou, Y.H.         | 2979-2988A             |
| Sutliff, J.        | 1955-1969A               | Vaidyanathan, K.  | 427-435A             | Wu, Y.                          |                        | Zhu, H.G.          | 243-248A               |
|                    |                          |                   |                      |                                 | 1381-1389A             | Zhu, J.H.          | 1449-1452A             |
| Sutou, Y.          | 2721-2723A               | Vaidyanathan, S.  | 2067-2072A           | Wu, YL.                         | 1017-1024A             | 211u, J.H.         |                        |
| Suzuki, K.         | 1877-1880A               | Vajo, J.J.        | 2931-2939A           | Xiang, H.                       | 1275-1282A             | 76 7               | 1569-1578A             |
| Suzuki, R.O.       | 403-410B                 | Valtierra, S.     | 773-778B             | Xiao, X.                        | 901-908B               | Zhu, Z.            | 771-776A               |
| Suzuki, T.         | 807-813A                 | Van Dyk, J.P.     | 823-826B             | Xie, D.                         | 465-472B               | Zhuang, J.Y.       | 2701-2712A             |
| Swinbourne, D.R.   | 589-595B                 | Van Heerden, D.   | 2959-2965A           | Xie, X.                         | 1109-1117A             | Zolotorevsky, N.   | 1663-1673A             |
| Syn, C.K.          | 1559-1568A               | Van Humbeeck, J.  | 493-499A             | Xin, X.J.                       | 2073-2087A             | Zoric, J.          | 341-348B               |
|                    |                          |                   |                      |                                 |                        |                    |                        |

# Combined Subject Index

| Abrasion resistance, Heating effects Evaluation of halide-activated pack boriding of Inconel 722.                                 | 670-675A   | Alpha iron, Microstructure Fifty-year study of grain-boundary relaxation.  | 2267-2295A             |
|---|------------|--|------------------------|
| Absorption (material), Heating effects  The effect of ion implanting on hydrogen entry into metals.                               | 1535-1540A | Aluminides, Bonding Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb.                                      | 2722 27264             |
| Accuracy  |            | Bulk-alloy microstructural analogues for transient liquid-phase  | 2723-2726A             |
| Three-dimensional modeling of the flow and the interface sur-<br>face in a continuous casting mold model.                         | 1095-1105B | bonds in the NiAl/Cu/Ni system.  | 3111-3124A             |
| Cavitation and failure during hot forging of Ti-6Al-4V.   | 1411-1424A | Aluminides, Coatings   |                        |
| Effect of fiber spatial arrangement on the transverse strength of<br>titanium matrix composites.                                  | 2513-2522A | Nickel monoaluminide coating on ultralow-carbon steel by reac-<br>tive sintering.  | 1605-1612A             |
| Acicular structure  |            | Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating  |                        |
| Effect of initial microstructure on plastic flow and dynamic glob-<br>ularization during hot working of Ti-6Al-4V.                | 2010 20204 | on a desulfurized Ni-base superalloy.  | 2679-2687A             |
|   | 3219-3229A | Aluminides, Composite materials  Wear behavior of in situ Al-based composites containing TiB <sub>2</sub> ,                            |                        |
| Activated sintering  Nickel monoaluminide coating on ultralow-carbon steel by reac-   |            | Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.   | 243-248A               |
| tive sintering.   | 1605-1612A | Fatigue-crack propagation behavior of ductile/brittle laminated composites.  | 633-642A               |
| Activation energy Studies on the chlorination of zircon. I. Static bed investigations.  | 205-213B   | Degradation mechanism of SiC/super α2 composite due to   |                        |
| Kinetics and mechanism of electroless copper deposition at  | 203-2130   | interfacial reaction.  Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrif-                                     | 2713-2720A             |
| moderate-to-high copper ion and low-to-moderate formalde-<br>hyde concentrations.   | 223-229B   | ugal method.   | 3253-3261A             |
| Recrystallization activation energy in mechanically alloyed   | 223-2296   | Aluminides, Directional solidification   |                        |
| oxide-dispersion-strengthened metals measured by differen-  | 1005 10071 | Directional solidification and phase equilibria in the Ni-Al sys-<br>tem.  | 3167-3175A             |
| tial scanning calorimetry.  | 1885-1887A |  | 3107-3175A             |
| Adhesion Microcracking of flash coatings and its effect on the Zn-Ni coat-  |            | Aluminides, Heat treatment The nitriding behavior of Ti-Al alloys at 1000°C.   | 19-29A                 |
| ing adhesion of electrodeposited sheet steel.   | 437-448A   | Aluminides, Mechanical properties  |                        |
| Aging (artificial)  |            | Cavitation erosion of NiAl.  | 335-343A               |
| Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C.  | 345-353A   | The effect of microstructure on fracture toughness and fatigue<br>crack growth behavior in $\gamma$ -titanium aluminide based interme- |                        |
| Yield behavior of a mild steel after prestraining and aging under   |            | tallics.   | 563-577A               |
| reversed stress.  Stabilization and two-way shape memory effect in Cu-Al-Ni sin-  | 411-416A   | High-temperature deformation behavior of NiAl(Ti) solid-solu-<br>tion single crystals.   | 587-600A               |
| gle crystals.   | 493-499A   | Modeling and measurement of the notched strength of gamma  | 367-000A               |
| Aging behavior of an Al-Li-Cu-Mg-Zr alloy.  Study of precipitation kinetics in a super purity Al-0.8% Mg-                         | 741-749A   | titanium aluminides under monotonic loading.   | 949-959A               |
| 0.9% Si alloy using differential scanning calorimetry.  | 879-884A   | Deformation and fracture behavior of a directionally solidified β/<br>γ Ni-30 at.% Al alloy.   | 1003-1015A             |
| Phase transformation of Zn-4Al-3Cu alloy during heat treat-<br>ment.  | 917-923A   | Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.                                | 1000 10004             |
| Formation of hcp martensite during the isothermal aging of an   |            | Interplay between oxidation and wear behavior of the Ti-48Al-  | 1203-1209A             |
| fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.  Influence of secondary precipitates and crystallographic orien-                  | 1177-1184A | 2Cr-2Nb-1B alloy.  | 2019-2026A             |
| tation on the strength of single crystals of a Ni-based superal-  |            | The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.<br>Temperature and composition dependence of the elastic con-            | 2349-2367A             |
| loy. The effects of preaging treatments on aging kinetics and   | 1249-1259A | stants of Ni <sub>3</sub> Al.  | 2403-2408A             |
| mechanical properties in AA6111 aluminum autobody sheet.  | 1999-2006A | Influence of the temperature on the plastic deformation in TiAl.  Environmental embrittlement caused by hydrogen for interme-          | 2865-2873A             |
| Development of a heat treatment for a directionally solidified<br>cobalt-base superalloy.   | 2251-2254A | tallic compounds: preliminary model of ductility reduction.  | 3089-3097A             |
| The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic  |            | Aluminides, Melting  |                        |
| alloys. I.  Tensile strength of thermomechanically processed Cu-9Ni-6Sn   | 2305-2323A | Discussion of "Superheating behavior of NiAI".   | 1675A                  |
| alloys.   | 2649-2657A | Aluminides, Oxidation Oxidation behavior of niobium aluminide intermetallics pro-  |                        |
| Mechanism of the formation of lamellar M <sub>23</sub> C <sub>6</sub> at and near twin boundaries in austenitic stainless steels. | 2791-2801A | tected by aluminide and silicide diffusion coatings.   | 495-504B               |
| Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic  |            | Aluminides, Phase transformations  |                        |
| steel.  | 2825-2834A | The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic<br>alloys. I.   | 2305-2323A             |
| Aging (artificial), Composition effects Microstructure and mechanical behavior of spray-deposited                                 |            | Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys  |                        |
| high-Li Al-Li alloys.   | 1381-1389A | during aging in the single $\alpha$ field.  Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-                    | 2591-2598A             |
| Aging (artificial), Welding effects   |            | ory alloys.  | 2721-2723A             |
| Precipitation sequence in friction stir weld of 6063 aluminum<br>during aging.  | 3125-3130A | Aluminides, Powder technology  |                        |
| Aging (natural)   |            | Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys.   | 171-188B               |
| A process model for the heat-affected zone microstructure evo-  |            | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy   |                        |
| lution in Al-Zn-Mg weldments.   | 2667-2677A | during annealing in the α+γ-phase field.  Thermal analysis of self-propagating high-temperature reac-                                  | 751-761A               |
| Air pollution Greenhouse gases and the metallurgical process industry.  | 841-856B   | tions in titanium, boron, and aluminum powder compacts.  | 781-788A               |
| Aircraft components, Coating  | 01.0000    | Field-activated combustion synthesis of titanium aluminides.   | 1101-1108A             |
| Mathematical modeling of a melt pool driven by an electron  |            | Aluminides, Welding The role of phase transformation in electron-hearn welding of  |                        |
| beam.   | 515-525B   | The role of phase transformation in electron-beam welding of<br>TiAl-based alloys.   | 1717-1726A             |
| Allotropic transformation, Heating effects The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic                           |            | Aluminum, Alloying additive  |                        |
| alloys. I.  | 2305-2323A | Studies of the morphology of the Al-rich interfacial layer formed  | 691.6054               |
| Influence of the Mn content on the kinetics of austempering<br>transformation in compacted graphite cast iron.                    | 2745-2752A | during the hot dip galvanizing of steel sheet.  The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.                            | 681-695A<br>2007-2018A |
| Alloy plating   |            | Aluminum, Alloying elements  |                        |
| Microcracking of flash coatings and its effect on the Zn-Ni coat-   | 407        | Characteristics of continuous-galvanizing baths.   | 144-148B               |
| ing adhesion of electrodeposited sheet steel.   | 437-448A   | Liquid-solid partition ratios in nickel-base alloys.   | 2173-2181A             |

| Aluminum, Binary systems   |                          | Aluminum, Refining  |                          |
|--|--------------------------|---|--------------------------|
| Dendritic morphology observed in the solid-state precipitation<br>in binary alloys.  | 1529-1534A               | Analyses of the dynamic processes of liquid metal filtration.  Aluminum, Ternary systems  | 891-900B                 |
| Cyclic solid-state transformations during ball milling of alumi-<br>num zirconium powder and the effect of milling speed.<br>The influence of temperature gradients on Ostwald ripening. | 1877-1880A<br>2341-2348A | Thermodynamic assessment of the Al-Fe-Si system.<br>Thermodynamic activities in the alloys of the Ti-Al-Nb system.  | 1081-1095A<br>1315-1326A |
| A numerical model of peritectoid transformation.  Determination of the critical nucleus size of precipitates using   | 2563-2573A               | Experimental and thermodynamic investigation of the Ni-Al-Mo system.  | 1785-1795A               |
| the macroscopic composition gradient method.  Directional solidification and phase equilibria in the Ni-Al sys-  | 2783-2789A               | Aluminum base alloys, Casting<br>Modeling the fluid-flow-induced stress and collapse in a den-  | 007.000                  |
| tem. Aluminum, Bonding   | 3167-3175A               | dritic network.  The heat-transfer coefficient during the unidirectional solidifica-  | 287-293B                 |
| The influence of solid-state and liquid-phase bonding on fatigue at $AI/Al_2O_3$ interfaces.   | 763-769A                 | tion of an Al-Si alloy casting.  Casting-chill interface heat transfer during solidification of an aluminum alloy.  | 473-482B<br>773-778B     |
| Aluminum, Casting  A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  | 119-133B                 | The effect of Sr and Fe additions on the microstructure and<br>mechanical properties of a direct squeeze cast Al-7Si-0.3Mg<br>alloy.  | 1341-1356A               |
| A mathematical model for surface segregation in aluminum<br>direct chill casting.  | 135-142B                 | A three-dimensional cellular automation-finite element model for the prediction of solidification grain structures.   | 3153-3165A               |
| High-energy x-ray computed tomography of the progression of<br>the solidification front in pure aluminum.  | 1403-1409A               | Aluminum base alloys, Coating   |                          |
| Study of electromagnetic separation of nonmetallic inclusions from aluminum melt.  | 2979-2988A               | The effects of preaging treatments on aging kinetics and<br>mechanical properties in AA6111 aluminum autobody sheet.<br>Copper coatings for minimization of retention and permeation      | 1999-2006A               |
| Aluminum, Chemical analysis  Distribution of aluminum in hot-dip galvanized coatings.  | 3031-3044A               | of implanted tritium in aluminum alloy 6061.  | 2191-2199A               |
| Aluminum, Composite materials Thermal expansion of morphologically textured short-fiber  |                          | Aluminum base alloys, Composite materials  The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.  | 195-201A                 |
| composites.  Settling of multisized clusters of alumina particules in liquid alu-  | 203-212A                 | Fundamental aspects of creep in metal matrix composites.<br>Synergistic effects of wear and corrosion for   | 315-324A                 |
| minum.  Wear behavior of in situ Al-based composites containing  | 241-247B                 | Al <sub>2</sub> O <sub>3</sub> particulate-reinforced 6061 aluminum matrix compos-<br>ites.   | 643-651A                 |
| TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles. Infiltration of fibrous preforms by a pure metal. V. Influence of                                  | 243-248A                 | Correlation of tensile strength with fracture modes of KAO-<br>WOOL- and SAFFIL-reinforced 339 aluminum.  | 815-824A                 |
| preform compressibility.  Mechanical behavior of aluminum matrix composite during  | 471-482A                 | Monkman-Grant analysis of creep fracture in dispersion-<br>strengthened and particulate-reinforced aluminum.  | 829-838A                 |
| extrusion in the semisolid state.  A study on the kinetic process of reaction synthesis of TiC. I.   | 1137-1146A               | Recycling of aluminum matrix composites.  Mechanical behavior of Al-Li-SiC composites. I. Microstructure  | 839-844A                 |
| Experimental research and theoretical model.  A study on the kinetic process of reaction synthesis of TiC. II.   | 1147-1151A               | and tensile deformation.  | 845-855A                 |
| Theoretical analyses and numerical calculation. Plasticity of continuous fiber-reinforced metals.  | 1153-1157A<br>1843-1866A | Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.  | 857-867A                 |
| Discussion of "Particle engulfment and pushing by solidying  | 1043-1000A               | Mechanical behavior of Al-Li/SiC composites. III. Microme-<br>chanical modeling.  | 869-878A                 |
| interfaces. II. Microgravity experiments and theoretical analy-<br>sis" and authors' reply.<br>Influence of the localized initial plastic deformation on the                             | 1887-1894A               | The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.<br>Plasticity of continuous fiber-reinforced metals.                      | 1835-1841A<br>1843-1866A |
| effective thermomechanical response of metal-matrix composites.  | 2875-2884A               | Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under controlled atmospheric conditions.  | 2523-2538A               |
| Modeling of composite growth in the directed aluminum melt<br>nitridation process.   | 2951-2958A               | Solutionizing effects on deformation-induced phase transfor-<br>mations in 2014 aluminum composite.   | 2539-2545A               |
| Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrif-<br>ugal method.  | 3253-3261A               | Wear of Al-based hybrid composites containing BN and SiC particulates.  | 2551-2555A               |
| Aluminum, Crystal growth The Alstruc microstructure solidification model for industrial  | 0405 04464               | Fabrication and characteristics of AA6061/ $Si_3N_{4p}$ composite by the pressureless infiltration technique. Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrif- | 2999-3007A               |
| aluminum alloys.  Aluminum, Diffusion  | 2135-2146A               | ugal method.  | 3253-3261A               |
| A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.   | 535-543A                 | Aluminum base alloys, Crystal growth Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys.                           | 505-513B                 |
| Aluminum, Extraction The influence of the initial shape and position of an anode and   |                          | Measurement of liquid permeability in the mushy zones of alu-<br>minum-copper alloys.   | 745-750B                 |
| the curvature of the aluminum on the current distribution in<br>prebaked aluminum cells.   | 341-348B                 | Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures.  | 2455-2462A               |
| Aluminum, Mechanical properties<br>Microstructure and mechanisms of cyclic deformation in alumi-<br>num single crystals at 77K. II. Edge dislocation dipole<br>heights.                  | 777-779A                 | Aluminum base alloys, Extrusion  Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.  | 2503-2512A               |
| Aluminum, Microstructure   | ,,,,,,,,                 | Aluminum base alloys, Heat treatment The nitriding behavior of Ti-Al alloys at 1000°C.  | 19-29A                   |
| Influence of pressing speed on microstructural development in<br>equal-channel angular pressing.   | 1989-1997A               | Aluminum base alloys, Mechanical properties   | 19-29A                   |
| Fifty-year study of grain-boundary relaxation. Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observa-                    | 2267-2295A               | Observations of grain-boundary sliding and surface topogra-<br>phy in an 8090 Al alloy after uniaxial and biaxial superplastic<br>deformation.  | 53-64A                   |
| tions.   | 2491-2501A               | Modeling high-temperature stress-strain behavior of cast aluminum alloys.   | 133-146A                 |
| Aluminum, Physical properties Damping behavior of foamed aluminum.   | 771-776A                 | High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material.  | 371-376A                 |
| The surface tension of molten aluminum and Al-Si-Mg alloy<br>under vacuum and hydrogen atmospheres.  | 1027-1032B               | A new hot-tearing criterion.  Low-cycle fatigue crack initiation and break in strain-life curve   | 449-455A                 |
| Aluminum, Powder technology Thermal analysis of self-propagating high-temperature reac-  |                          | of Al-Li 8090 alloy.  | 887-890A                 |
| tions in titanium, boron, and aluminum powder compacts.  | 781-788A                 | Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy.  | 1017-1024A               |
| Aluminum, Reactions (chemical)  Nonisothermal gravimetric investigation on kinetics of reduction of magnesia by aluminum.  | 1003-1008B               | Precipitate-induced plastic anisotropy: explicit solutions of the<br>plastic anisotropy due to plate-shaped precipitates.<br>Microstructure and mechanical behavior of spray-deposited    | 1283-1288A               |
| Aluminum, Recovering   |                          | high-Li Al-Li alloys.  The effect of grain size and temperature on the superplastic   | 1381-1389A               |
| Recycling of aluminum matrix composites.   | 839-844A                 | deformation behavior of a 7075 Al alloy.  | 2037-2047A               |

| Closure-affected fatigue crack propagation behaviors of pow-<br>der metallurgy-processed Al-Li alloys in various environ-                            |                          | Wear behavior of in situ Al-based composites containing TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.                                      | 243-248A             |
|--|--------------------------|--|----------------------|
| ments.   | 2097-2102A               | Infiltration of fibrous preforms by a pure metal. V. Influence of  |                      |
| Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-<br>Zr alloys at 293 and 77K.  | 2254-2258A               | preform compressibility.  Synergistic effects of wear and corrosion for  | 471-482A             |
| Influence of calcium addition on the superplastic-like behavior<br>of extruded Al-Al <sub>3</sub> Ni eutectic alloy.                                 | 2258-2260A               | Al <sub>2</sub> O <sub>3</sub> particulate-reinforced 6061 aluminum matrix compos-<br>ites.  | 643-651A             |
| The effect of Mg on the microstructure and mechanical behav-   |                          | Correlation of tensile strength with fracture modes of KAO-<br>WOOL- and SAFFIL-reinforced 339 aluminum.   |                      |
| ior of Al-Si-Mg casting alloys.  Microstructural effects on high-cycle fatigue-crack initiation in   | 2611-2618A               | Processing copper and silver matrix composites by electroless  | 815-824A             |
| A356.2 casting alloy.  The effect of solidification rate on the growth of small fatigue  | 2659-2666A               | plating and hot pressing.  Diffusional reactions during processing of Timetal 21S/   | 1119-1136A           |
| cracks in a cast 319-type aluminum alloy.  The debonding and fracture of Si particles during the fatigue of  | 3055-3068A               | Al <sub>2</sub> O <sub>3</sub> composites.  The tensile strength of 339 aluminum reinforced with kaowool   | 1437-1447A           |
| a cast Al-Si alloy.  | 3079-3088A               | fibers: a comparison of T5 and T6 heat treatments.   | 1835-1841A           |
| Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution.                                   | 3191-3199A               | Plasticity of continuous fiber-reinforced metals.  Creep behavior of an AZ91 magnesium alloy reinforced with   | 1843-1866A           |
| Aluminum base alloys, Metal working  |                          | alumina fibers.  Solutionizing effects on deformation-induced phase transfor-  | 2059-2066A           |
| Prediction of yield surfaces of textured sheet metals.  Computer simulation of annealing and recovery effects on ser-                                | 377-386A                 | mations in 2014 aluminum composite.  | 2539-2545A           |
| rated flow in some Al-Mg alloys.  Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy by repeated thermomechanical treatment to produce a | 387-397A                 | Aluminum oxide, Crystal growth<br>Thermodynamics of nucleation and supersaturation for the alu-<br>minum-deoxidation reaction in liquid iron.                                      | 1065-1074B           |
| heavily deformable material.  An induction heating process with coil design and solutions  | 2221-2228A               | Aluminum oxide, Impurities   | COO CE 4D            |
| avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3%   | 0007.00774               | Modeling of inclusion removal in a tundish.  Aluminum oxide, Reactions (chemical)  | 639-654B             |
| Mg alloy for thixoforming.  Aluminum base alloys, Microstructure   | 2967-2977A               | The effect of Al <sub>2</sub> O <sub>3</sub> on liquidus temperatures of fayalite slags.<br>Simulation of primary-slag melting behavior in the cohesive                            | 597-605B             |
| On the origin of the R orientation in the recrystallization tex-<br>tures of aluminum alloys.  | 1517-1527A               | zone of a blast furnace, considering the effect of Al <sub>2</sub> O <sub>3</sub> , Fe <sub>1</sub> O, and basicity in the sinter ore.   | 671-683B             |
| Grain refinement of aluminum alloys. I. The nucleant and sol-<br>ute paradigms—a review of the literature.   | 1613-1623A               | A study of the sulfide capacities of iron-oxide containing slags.<br>Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.        | 909-920B<br>921-925B |
| Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm.  | 1625-1633A               | Amorphization, Processing effects  | 02, 0200             |
| The role of iron in the formation of porosity in Al-Si-Cu-based  |                          | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha+\gamma$ -phase field.   | 751-761A             |
| casting alloys. I. Initial experimental observations.  The role of iron in the formation of porosity in Al-Si-Cu-based                               | 1643-1650A               | Amorphous structure, Processing effects  |                      |
| casting alloys. II. A phase-diagram approach.  The role of iron in the formation of porosity in Al-Si-Cu-based                                       | 1651-1655A               | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.  | 751-761A             |
| casting alloys. III. A microstructural model.  Influence of pressing speed on microstructural development in   | 1657-1662A               | Annealing  |                      |
| equal-channel angular pressing.  Application of image processing for simulation of mechanical  | 1989-1997A               | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha$ + $\gamma$ -phase field. Diffusional reactions during processing of Timetal 21S/ | 751-761A             |
| response of multi-length scale microstructures of engineering alloys.  | 2369-2381A               | Al <sub>2</sub> O <sub>3</sub> composites.  On the origin of the R orientation in the recrystallization tex-   | 1437-1447A           |
| Aluminum base alloys, Phase transformations  |                          | tures of aluminum alloys.  | 1517-1527A           |
| Study of precipitation kinetics in a super purity Al-0.8% Mg-<br>0.9% Si alloy using differential scanning calorimetry.                              | 879-884A                 | Annealing, Alloying effects Effect of cold rolling and annealing on the structure of γ" precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.  | 1923-1931A           |
| Aluminum base alloys, Phases (state of matter) Thermodynamic activities in the alloys of the Ti-Al-Nb system.  | 1315-1326A               | Anode sludge, Reactions (chemical)   | 1925-1951A           |
| Compositional characterization of Cu-rich phase particles<br>present in as-cast Al-Cu-Mg(-Li) alloys containing Ag.                                  | 1693-1704A               | Thermodynamics of the miscibility gap in the Ag-Se system.   | 589-595B \           |
| Aluminum base alloys, Physical properties  |                          | Anodes, Design The influence of the initial shape and position of an anode and   |                      |
| The surface tension of molten aluminum and Al-Si-Mg alloy<br>under vacuum and hydrogen atmospheres.  | 1027-1032B               | the curvature of the aluminum on the current distribution in<br>prebaked aluminum cells.   | 341-348B             |
| Aluminum base alloys, Powder technology Surface oxide and the role of magnesium during the sintering   |                          | Anodes, Materials selection  |                      |
| of aluminum.   | 457-463A                 | A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.  | 307-321B             |
| Anomalous pore morphologies in liquid-phase-sintered Al-Zn alloys.   | 1682-1685A               | Anodic dissolution   |                      |
| Aluminum base alloys, Structural hardening   |                          | Electrochemical interfacial phenomena under microgravity. I.<br>Anodic dissolution of copper in drop shaft.  | 99-105B              |
| Aging behavior of an Al-Li-Cu-Mg-Zr alloy.   | 741-749A                 | Anodic dissolution, Field effects  |                      |
| Aluminum base alloys, Welding Quantitative evaluation of softened regions in weld heat-  |                          | Electrochemical interfacial phenomena under microgravity. II.  Numerical analysis of the rate of ionic mass transfer accom-  |                      |
| affected zones of 6061-T6 aluminum alloy—characterizing of<br>the laser beam welding process.  | 2115-2120A               | panying anodic copper dissolution.   | 779-790B             |
| Microstructural evolution of 6063 aluminum during friction-stir welding.   | 2429-2437A               | Arc heating Mechanism of surface modification of the Ti-6Al-4V alloy using   |                      |
| A process model for the heat-affected zone microstructure evo-<br>lution in Al-Zn-Mg weldments.  |                          | a gas tungsten arc heat source.  | 1597-1603A           |
| Precipitation sequence in friction stir weld of 6063 aluminum during aging.  | 2667-2677A<br>3125-3130A | Argon, Environment<br>Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under<br>controlled atmospheric conditions.  | 2523-2538A           |
| Aluminum compounds, Phase transformations<br>Superheating behavior of NiAl: Authors' reply.  | 3265A                    | Argon blowing Height of the spout of a gas plume discharging from a metal  |                      |
| Aluminum killed steels, Mechanical properties  The effects of grain-refining precipitates on the development of                                      |                          | melt.  | 655-660B             |
| toughness in 4340 steel.   | 93-114A                  | Arsenic, Impurities Simulation of the removal of arsenic during the roasting of cop-   | 000 1015             |
| Aluminum oxide, Bonding The influence of solid-state and liquid-phase bonding on   |                          | per concentrate.  Arsenic, Trace elements  | 393-401B             |
| fatigue at Al/Al <sub>2</sub> O <sub>3</sub> interfaces.  Aluminum oxide, Composite materials  | 763-769A                 | Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.   | 2049-2058A           |
| The effect of shot particles on the fatigue of Kaowool fiber-rein-   | 195-201A                 | Ausforming Deformation of metastable austenite and resulting properties  |                      |
| forced 339 aluminum. Settling of multisized clusters of alumina particules in liquid alu-  |                          | during the ausform-finishing of 1% carburized AISI 9310  | 100 1001             |
| minum.   | 241-247B                 | steel gears.   | 183-193A             |

| Austempering Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron.  | 2745-2752A               | Beverage cans, Metal working<br>Computer simulation of annealing and recovery effects on ser-<br>rated flow in some Al-Mg alloys.  | 387-397A                         |
|---|--------------------------|--|----------------------------------|
| Austenitic stainless steels, Crystal growth The solidification characteristics of laser surface-remelted Fe-  | 1017 10064               | Billet casting Cavity sequences in continuously cast billets. I. Analysis of   | 751-761B                         |
| 12Cr-nC alloys.  Austenitic stainless steels, Mechanical properties   | 1817-1826A               | empirical data.  Cavity sequences in continuously cast billets. II. Stochastic models.   | 763-772B                         |
| Influence of grain size and stacking-fault energy on deforma-<br>tion twinning in foc metals.<br>Improvement of the resistance to stress corrosion cracking in                        | 1223-1233A               | Billets, Extrusion Hot working of Ti-6Al-4V via equal channel angular extrusion.   | 2473-2481A                       |
| austenitic stainless steels by cyclic prestraining.  Modeling solid-particle erosion of ductile alloys.   | 1327-1331A<br>1763-1774A | Billets, Microstructure Cavity sequences in continuously cast billets. I. Analysis of  |                                  |
| Austenitic stainless steels, Metal working A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process.                    | 2619-2627A               | empirical data.  Cavity sequences in continuously cast billets. II. Stochastic models.   | 751-761B<br>763-772B             |
| Austenitic stainless steels, Oxidation Simultaneous oxidation and sigma-phase formation in a stain- less steel.   | 355-362A                 | Binary systems, Phase transformations  Dendritic morphology observed in the solid-state precipitation in binary alloys.  | 1529-1534A                       |
| Austenitic stainless steels, Phase transformations  Mechanism of the formation of lamellar M <sub>23</sub> C <sub>6</sub> at and near twin boundaries in austenitic stainless steels. | 2791-2801A               | Cyclic solid-state transformations during ball milling of alumi-<br>num zirconium powder and the effect of milling speed.<br>The influence of temperature gradients on Ostwald ripening.                                 | 1877-1880A<br>2341-2348A         |
| Austenitic stainless steels, Rolling Composition, microstructure, hardness, and wear properties of high-speed steel rolls.  | 399-409A                 | A numerical model of peritectoid transformation.  Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method.  | 2563-2573A<br>2783-2789A         |
| Austenitic stainless steels, Welding Direction of grain-boundary migration in the weld metal of an austenitic stainless steel.  | 621-626A                 | Binary systems, Phases (state of matter) $\beta \rightarrow \alpha^{\circ}$ and $\beta \rightarrow \infty$ transformations in Ti-Os alloys. Thermodynamic calculation for alloy systems. Thermodynamics of Ca-Ga alloys. | 231-233A<br>271-277B<br>459-464B |
| Austenitizing A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon  | OL FOLON                 | Thermodynamics of the miscibility gap in the Ag-Se system. The neodymium-gold phase diagram. Experimental investigations and thermodynamic descriptions  | 589-595B<br>1169-1176A           |
| steel. Fatigue and fracture of porous steels and Cu-infiltrated porous  | 107-117B                 | of the Ni-Si and C-Ni-Si systems.  Partial Fe-Ti alloy phase diagrams at high pressure.  | 2409-2418A<br>3009-3011A         |
| steels. Automotive bodies, Coating  | 325-334A                 | Directional solidification and phase equilibria in the Ni-Al system.   | 3167-3175A                       |
| The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet.   | 1999-2006A               | Bismuth, Alloying elements Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-   | 115-122A                         |
| Automotive components, Casting Relation between cooling rates and microstructures in gravity- die-cast AZ91D disks.   | 723-729B                 | tions.  Bismuth, Dopants  Bismuth embrittlement of [011] twist boundaries in copper bic-   | 123-132A                         |
| Automotive components, Coating<br>Microcracking of flash coatings and its effect on the Zn-Ni coat-<br>ing adhesion of electrodeposited sheet steel.                                  | 437-448A                 | rystals. Bismuth, Ternary systems  | 483-485A                         |
| Automotive components, Mechanical properties Fracture and fatigue behavior of sintered steel at elevated tem-   |                          | Investigation of the phase equilibria in the Sn-Bi-In alloy system.  | 1503-1515A                       |
| peratures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation.  | 2885-2893A<br>2895-2904A | Blast furnace practice Thermodynamics of TiO <sub>x</sub> in blast furnace-type slags. Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln.  | 29-43B<br>969-977B               |
| Bacterial corrosion, Coating effects<br>Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers.                                  | 2129-2134A               | Blister copper, Extraction Thermodynamic modeling of lead distribution among matte, slag, and liquid copper.   | 1033-1044B                       |
| Bainitic transformations Bainite transformation temperatures in high-silicon steels.  | 909-916A                 | Bolts, Mechanical properties Creep deformation and fracture of a Cr/Mo/V bolting steel con-  | 1000 10112                       |
| Bake hardenable steels, Phase transformations<br>Aluminum nitride precipitation and texture development in<br>batch-annealed bake-hardening steel.                                    | 1663-1673A               | taining selected trace-element additions.  Boriding  | 2049-2058A                       |
| Baking The effects of preaging treatments on aging kinetics and   |                          | Evaluation of halide-activated pack boriding of Inconel 722.  Boron, Alloying additive   | 670-675A                         |
| mechanical properties in AA6111 aluminum autobody sheet.  Ball milling  | 1999-2006A               | Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.  Boron nitride, Composite materials  | 1185-1191A                       |
| Cyclic solid-state transformations during ball milling of alumi-<br>num zirconium powder and the effect of milling speed.  Barkhausen effect, Deformation effects                     | 1877-1880A               | Wear of Al-based hybrid composites containing BN and SiC particulates.   | 2551-2555A                       |
| Effect of different stages of tensile deformation on micromag-<br>netic parameters in high-strength, low-alloy steel.   | 2067-2072A               | Bottom blown converters<br>Model study on mixing and mass transfer in ferroalloy refining<br>processes.  | 231-239B                         |
| Batch annealing Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel.  | 1663-1673A               | Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath.  | 631-637B                         |
| Bauschinger effect Bauschinger effect and multiaxial yield behavior of stress-  |                          | Brasses, Casting Mathematical modeling of copper and brass upcasting.  | 75-98B                           |
| reversed mild steel.  Bauschinger effect, Deformation effects  Yield behavior of a mild steel after prestraining and aging  | 3069-3078A               | Brasses, Mechanical properties Influence of grain size and stacking-fault energy on deformation twinning in fcc metals.  | 1223-1233A                       |
| under reversed stress.  Bend strength, Processing effects   | 411-416A                 | Brasses, Microstructure Fifty-year study of grain-boundary relaxation.   | 2267-2295A                       |
| Processing copper and silver matrix composites by electroless plating and hot pressing.   | 1119-1136A               | Brinell hardness, Processing effects A study on laser sintering of Fe-Cu powder compacts.  | 2229-2235A                       |
| <b>Beryllium, Corrosion</b> Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers.  | 2129-2134A               | Brittle fracture  Eutectic cell wall morphology and tensile embrittlement in fer- ritic spheroidal graphite cast iron.   | 1775-1784A                       |

| Brittle fracture, Alloying effects Bismuth embrittlement of [011] twist boundaries in copper bicrystals.   | 483-485A                 | Carbon steels, Melting Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding.   | 791-801B                 |
|--|--------------------------|--|--------------------------|
| Bronzes, Mechanical properties Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys.   | 2649-2657A               | Carbonates, Reduction (chemical)  Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts.   | 901-908B                 |
| Bronzes, Powder technology  Combined effects of time and temperature on strength evolu-  |                          | Carbonitrides, Coatings<br>Synthesis and characterization of Ti-Si-C-N films.  | 2439-2447A               |
| tion using integral work-of-sintering concepts. <b>Bubbles</b>   | 465-470A                 | Carbothermic reactions Influence of pellet composition and structure on carbothermic   |                          |
| Turbulence structure of bottom-blowing bubbling jet in a molten<br>Wood's metal bath.  | 61-66B                   | reduction of silica.  Kinetics of chlorination of zirconia in mixture with petroleum   | 295-306B                 |
| Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis.  | 361-367B                 | coke by chlorine gas.<br>High-temperature phase relations and thermodynamics in the<br>iron-titanium-oxygen system.  | 375-381B<br>695-705B     |
| Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments.  | 369-373B                 | Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ).  Carburizing  Effect of surface carburization on dynamic deformation and  | 1075-1081B               |
| Bubbling Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt.   | 411-418B                 | fracture of tungsten heavy alloys.<br>Multicomponent diffusion simulation based on finite elements.  | 2027-2035A<br>2575-2582A |
| Bulk modulus, Temperature effects Temperature and composition dependence of the elastic con-   | 411-4100                 | Case depth Mechanism of surface modification of the Ti-6Al-4V alloy using a gas tungsten arc heat source.  | 1597-1603A               |
| stants of Ni <sub>3</sub> Al.  | 2403-2408A               | Influence of annealing on depth distributions and microstruc-<br>ture of ion-implanted Ti6Al4V.  | 2121-2127A               |
| Cadmium, Binary systems  Dendritic morphology observed in the solid-state precipitation in binary alloys.  | 1529-1534A               | Cast iron, Casting A thermally coupled flow formulation with microstructural evolution for hypoeutectic cast-iron solidification.  | 731-744B                 |
| Calcium, Alloying additive Influence of calcium addition on the superplastic-like behavior of extruded Al-Al <sub>3</sub> Ni eutectic alloy.   | 2258-2260A               | Casting alloys, Mechanical properties  Modeling high-temperature stress-strain behavior of cast alu-   |                          |
| Calcium, Binary systems Thermodynamics of Ca-Ga alloys.  | 459-464B                 | minum alloys.  Effect of alloy preheating on the mechanical properties of as-  | 133-146A                 |
| Calcium fluoride, Reactions (chemical)   |                          | cast Co-Cr-Mo-C alloys. The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys.   | 611-620A<br>2611-2618A   |
| Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.  Carbides, Coatings   | 921-925B                 | Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.  | 2659-2666A               |
| Synthesis and characterizatiion of Ti-Si-C-N films.  | 2439-2447A               | The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy.   | 3055-3068A               |
| Carbides, Crystal growth Precipitation of an intermetallic phase with Pt <sub>2</sub> Mo-type structure in alloy 625.  | 41-52A                   | The debonding and fracture of Si particles during the fatigue of<br>a cast Al-Si alloy.  | 3079-3088A               |
| Secondary carbide precipitation in a directionally solidified cobalt-base superalloy. Characterization of the W <sub>2</sub> C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder. | 513-520A<br>1913-1921A   | Casting alloys, Microstructure  The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.  The role of iron in the formation of porosity in Al-Si-Cu-based | 1643-1650A               |
| Mechanism of the formation of lamellar M <sub>23</sub> C <sub>6</sub> at and near twin boundaries in austenitic stainless steels.  | 2791-2801A               | casting alloys. II. A phase-diagram approach.  The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.   | 1651-1655A<br>1657-1662  |
| Carbides, Mechanical properties Dislocations, kink bands, and room-temperature plasticity of Ti <sub>3</sub> SiC <sub>2</sub> .  | 1727-1738A               | Casting alloys, Phases (state of matter) Compositional characterization of Cu-rich phase particles present in as-cast Al-Cu-Mg(-Li) alloys containing Ag.  | 1693-1704A               |
| Carbon, Composite materials Processing copper and silver matrix composites by electroless plating and hot pressing.  | 1119-1136A               | Casting defects, Alloying effects The role of iron in the formation of porosity in Al-Si-Cu-based  |                          |
| Carbon, Diffusion Role of back-diffusion studied by computer simulation.   | 1635-1641A               | casting alloys. I. Initial experimental observations.  The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.   | 1643-1650A<br>1651-1655A |
| Influence of annealing on depth distributions and microstruc-<br>ture of ion-implanted Ti6Al4V.<br>Multicomponent diffusion simulation based on finite elements.   | 2121-2127A<br>2575-2582A | The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.  | 1657-1662A               |
| Carbon, Reactions (chemical) Reactive infiltration of silicon melt through microporous amor-   |                          | Cavitation Cavity sequences in continuously cast billets. I. Analysis of   | 754 7040                 |
| phous carbon preforms.  Carbon, Solubility   | 933-944B                 | <ul> <li>empirical data.</li> <li>Cavity sequences in continuously cast billets. II. Stochastic<br/>models.</li> </ul>   | 751-761B<br>763-772B     |
| Solubility of carbon in CaO-B <sub>2</sub> O <sub>3</sub> and BaO-B <sub>2</sub> O <sub>3</sub> slags.  Carbon, Ternary systems  | 1045-1052B               | Cavitation, Deformation effects Observations of grain-boundary sliding and surface topogra-  |                          |
| Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems.   | 2409-2418A               | phy in an 8090 Al alloy after uniaxial and biaxial superplastic deformation.   | 53-64A<br>1411-1424A     |
| Evaluation of interaction parameters in metallic solutions by<br>the isoactivity method.   | 3103-3110A               | Cavitation and failure during hot forging of Ti-6Al-4V.<br>Stress-corrosion cracking susceptibility of the superplastically<br>formed 5083 aluminum alloy in 3.5% NaCl solution.                                       | 3191-3199A               |
| Carbon steels, Coating  Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by  |                          | Cavitation erosion, Vibration effects Cavitation erosion of NiAl.  | 335-343A                 |
| high-energy electron beam irradiation.  Carbon steels, Heat treatment Microstructure of TiB <sub>2</sub> /carbon steel surface-alloyed materials   | 3131-3141A               | Cellular structure A fine γ+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature   |                          |
| fabricated by high-energy electron beam irradiation.   | 3143-3151A               | tensile properties.<br>Eutectic cell wall morphology and tensile embrittlement in fer-   | 1495-1501A               |
| Carbon steels, Mechanical properties Fatigue and fracture of porous steels and Cu-infiltrated porous   |                          | ritic spheroidal graphite cast iron.  Cell/dendrite distribution in directionally solidified hypoeutectic  | 1775-1784A               |
| steels.  Yield behavior of a mild steel after prestraining and aging   | 325-334A                 | Pb-Sb alloys.  Macrosegregation caused by thermosolutal convection during  | 2159-2165A               |
| under reversed stress.  Bauschinger effect and multiaxial yield behavior of stress- reversed mild steel  | 411-416A                 | directional soldification of Pb-Sb alloys.  Cellular/dendritic array tip morphology during directional solidification of Pb-S 8 wt % Sb alloy.   | 2167-2171A<br>2463-2472A |
| reversed mild steel.   | 3069-3078A               | fication of Pb-5.8 wt.% Sb alloy.  | 2403-24/2A               |

|   | Cementation Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc.  | 607-611B                                     | Chromium base alloys, Composite materials Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>s</sub> Nb in situ composites. | 3239-3251A               |
|---|--|--|--|--------------------------|
|   | Cemented carbides, Coating Rapid thermal processing TiN coatings deposited by chemical and physical vapor deposition using a low-energy, high-cur- rent electron beam: micro-structural studies and properties.  | 2931-2939A                                   | Chromium compounds, Composite materials Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>5</sub> Nb in situ composites.   | 3239-3251A               |
|   | Cemented carbides, Coatings Characterization of the W <sub>2</sub> C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.   | 1913-1921A                                   | Chromium iron, Mechanical properties  Correlation of microstructure and microfracture mechanism of five work rolls.  | 234-243A                 |
|   | Cemented carbides, Mechanical properties A dual composite of WC-Co.  | 3231-3238A                                   | Chromium molybdenum steels, Casting Cavity sequences in continuously cast billets. I. Analysis of  | 204-240A                 |
|   | Cementite, Crystal growth An analytical electron microscopy study of paraequilibrium   |  | empirical data.  Cavity sequences in continuously cast billets. II. Stochastic   | 751-761B                 |
|   | cementite precipitation in ultra-high-strength steel.  Centrifugal casting   | 501-512A                                     | models.  Simulation of convection and macrosegregation in a large steel ingot.   | 763-772B<br>1357-1366A   |
|   | Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis.  Effect of interactions between bubbles and graphite particles in comparison of the particles in the control of th | 361-367B                                     | Chromium molybdenum steels, Mechanical properties Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels. Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic                                   | 1185-1191A               |
|   | copper alloy melts on microstructure formed during centrifugal casting. II. Experiments.   | 369-373B                                     | steel.   | 2825-2834A               |
|   | Composition, microstructure, hardness, and wear properties of<br>high-speed steel rolls.  Centrifugal castings, Microstructure   | 399-409A                                     | Chromium molybdenum steels, Welding Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel.  Pole of research equipment and eccorded precipitation in  | 161-174A                 |
|   | Effect of interactions between bubbles and graphite particles in<br>copper alloy melts on microstructure formed during centrifu-<br>gal casting. I. Theoretical analysis.<br>Effect of interactions between bubbles and graphite particles in  | 361-367B                                     | Role of gaseous environment and secondary precipitation in<br>microstructural degradation of Cr-Mo steel weldments at high<br>temperatures.  | 2103-2113A               |
|   | copper alloy melts on microstructure formed during centrifu-   | 260 272P                                     | Chromium molybdenum vanadium steels, Mechanical properties   |                          |
|   | gal casting. II. Experiments.  Ceramic fibers, Coating   | 369-373B                                     | Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.   | 2049-2058A               |
|   | Tensile properties of duplex metal-coated SiC fiber and tita-<br>nium alloy matrix composites.  Cerium, Alloying additive  | 3019-3024A                                   | Chromium steels, Mechanical properties Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.   | 961-968A                 |
|   | Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.   | 1017-1024A<br>2599-2604A                     | Cleavage The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.   | 65-79A                   |
|   | Cermets, End uses  A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.   | 307-321B                                     | Cleavage, Alloying effects The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.   | 2007-2018A               |
|   | Chalcopyrite, Beneficiation Chlorination of chalcopyrite concentrates.   | 567-576B                                     | Cleavage, Composition effects Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-   | 2007-2010A               |
| 1 | Chemical composition Compositional characterization of Cu-rich phase particles   | 307-3705                                     | solution alloys.  High-temperature mechanical behavior of Ti-6Al-4V alloy and  | 925-939A                 |
| , | present in as-cast Al-Cu-Mg(-Li) alloys containing Ag.   | 1693-1704A                                   | TiC <sub>p</sub> /Ti-6Al-4V composite.  Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys".  | 1569-1578A<br>1686A      |
| 1 | Chemical composition, Processing effects<br>Mathematical model for nitrogen control in oxygen steelmak-<br>ing.  | 945-956B                                     | Correction to erratum: Effects of Ti addition on cleavage frac-<br>ture in Nb-Cr-Ti solid solution alloys.   | 3025A                    |
|   | Chemical etching   |  | Cleavage, Deformation effects The influence of rolling practice on notch toughness and tex-  |                          |
|   | Electrochemical interfacial phenomena under microgravity. I.<br>Anodic dissolution of copper in drop shaft.  | 99-105B                                      | ture development in high-strength linepipe.  Clustering, Processing effects  | 3045-3054A               |
|   | Chemical vapor deposition<br>Influence of cold rolling and strain rate on plastic response of<br>powder metallurgy and chemical vapor deposition rhenium.  | 2641-2648A                                   | Settling of multisized clusters of alumina particules in liquid aluminum.  | 241-247B                 |
|   | Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-   |  | Cobalt, Composite materials A dual composite of WC-Co.   | 3231-3238A               |
|   | rent electron beam: micro-structural studies and properties.  Chill casting  | 2931-2939A                                   | Cobalt, Reactions (chemical)  Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes.   | 442 450B                 |
|   | Casting-chill interface heat transfer during solidification of an aluminum alloy.  | 773-778B                                     | Erratum: "Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".  | 443-450B<br>831B         |
|   | Chill castings, Crystal growth<br>Casting-chill interface heat transfer during solidification of an<br>aluminum alloy.   | 773-778B                                     | Cobalt base alloys, Heat treatment  Development of a heat treatment for a directionally solidified cobalt-base superalloy.   | 2251-2254A               |
|   | Chlorides, Reactions (chemical) Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc.  | 607-611B                                     | Cobalt base alloys, Mechanical properties  Effect of alloy preheating on the mechanical properties of as-  |                          |
|   | Chlorination Kinetics of chlorination of zirconia in mixture with petroleum  |  | cast Co-Cr-Mo-C alloys. Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.  | 611-620A<br>961-968A     |
|   | coke by chlorine gas.  Chlorination and carbochlorination of magnesium oxide.  Chlorination of chalcopyrite concentrates.  A study of chromite carbochlorination kinetics.   | 375-381B<br>383-391B<br>567-576B<br>577-587B | Modeling solid-particle erosion of ductile alloys.<br>Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction.  | 1763-1774A<br>3089-3097A |
|   | Chromite, Beneficiation A study of chromite carbochlorination kinetics.  | 577-587B                                     | Cobalt base alloys, Microstructure  Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys.   | 2941-2949A               |
|   | Chromium, Alloying elements Liquid-solid partition ratios in nickel-base alloys.   | 2173-2181A                                   | Cobalt base alloys, Phase transformations Secondary carbide precipitation in a directionally solidified  |                          |
|   | Chromium, Diffusion  | 211021014                                    | cobalt-base superalloy.  Formation of hcp martensite during the isothermal aging of an   | 513-520A                 |
|   | Role of back-diffusion studied by computer simulation.   | 1635-1641A                                   | fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.  | 1177-1184A               |

| Cobalt compounds, Mechanical properties   |                              | Convection  |                          |
|---|------------------------------|---|--------------------------|
| Environmental embrittlement caused by hydrogen for interme-<br>tallic compounds: preliminary model of ductility reduction.  | 3089-3097A                   | A thermally coupled flow formulation with microstructural evo-<br>lution for hypoeutectic cast-iron solidification.<br>Simulation of convection and macrosegregation in a large steel | 731-744B                 |
| Cold forging  Analysis and prevention of cracking phenomenon occurring  | 81-92A                       | ingot.  | 1357-1366A               |
| during cold forging of two AISI 1010 steel pulleys.<br><b>Cold rolling</b> Effect of cold rolling on the precipitation behavior of $\delta$ phase in  | 01-92A                       | Convection, Field effects Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field.  | 1809-1815A               |
| Inconel 718.  | 31-40A                       | Cooling rate Relation between cooling rates and microstructures in gravity-   |                          |
| Cold rolling, Alloying effects Effect of cold rolling and annealing on the structure of γ" precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.  | 1923-1931A                   | die-cast AZ91D disks.  Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the elec-  | 723-729B                 |
| Cold rolling, Processing effects Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  | 2641-2648A                   | tromagnetic levitation method.  Copper, Alloying additive   | 1827-1833A               |
| Columnar structure, Diffusion effects Growth of silicides and interdiffusion in the Mo-Si system.   | 545-550A                     | Fatigue and fracture of porous steels and Cu-infiltrated porous steels.   | 325-334A                 |
| Combustion Field-activated combustion synthesis of titanium aluminides.   | 1101-1108A                   | Copper, Alloying elements  Microstructure and mechanical behavior of spray-deposited  |                          |
| Compacted graphite iron, Phase transformations  | 1101-1100/                   | high-Li Al-Li alloys.  Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures.   | 1381-1389A<br>2455-2462A |
| Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron.   | 2745-2752A                   | Copper, Binary systems  |                          |
| Considering particle morphology in a constitutive model for   | 1450 14604                   | The neodymium-gold phase diagram.  Dendritic morphology observed in the solid-state precipitation in history allows.  | 1169-1176A               |
| metal powders compaction.  Compressing, Temperature effects   | 1159-1162A                   | in binary alloys.  Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method.  | 1529-1534A<br>2783-2789A |
| Influence of the temperature on the plastic deformation in TiAl.  Computer programs   | 2865-2873A                   | Copper, Casting   |                          |
| Characteristics of continuous-galvanizing baths.  | 144-148B                     | Mathematical modeling of copper and brass upcasting.  Copper, Coating   | 75-98B                   |
| Computer simulation Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites. Computer simulation of annealing and recovery effects on ser-   | 287-299A                     | Kinetics and mechanism of electroless copper deposition at<br>moderate-to-high copper ion and low-to-moderate formalde-<br>hyde concentrations.                                       | 223-229B                 |
| rated flow in some Al-Mg alloys.  LDV measurements and computation of a turbulent circular jet  | 387-397A                     | Copper, Coatings Copper coatings for minimization of retention and permeation   |                          |
| placed non-concentrically in a confining pipe.  Thermodynamics of nucleation and supersaturation for the alu-   | 957-967B                     | of implanted tritium in aluminum alloy 6061.  | 2191-2199A               |
| minum-deoxidation reaction in liquid iron.  Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.   | 1065-1074B<br>1203-1209A     | Copper, Composite materials  Processing copper and silver matrix composites by electroicss plating and hot pressing.  Plasticity of continuous fiber-reinforced metals.               | 1119-1136A<br>1843-1866A |
| Simulation of convection and macrosegregation in a large steel<br>ingot.<br>Role of back-diffusion studied by computer simulation.  | 1357-1366A<br>1635-1641A     | Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.  | 2989-2997A               |
| Effect of fiber spatial arrangement on the transverse strength<br>of titanium matrix composites.<br>Multicomponent diffusion simulation based on finite elements.<br>A three-dimensional cellular automation-finite element model | 2513-2522A<br>2575-2582A     | Copper, Corrosion  Electrochemical interfacial phenomena under microgravity. II.  Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution.       | 779-790B                 |
| for the prediction of solidification grain structures.  Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and  | 3153-3165A                   | Copper, Diffusion A new analysis for the determination of ternary interdiffusion  |                          |
| constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  Contact angle  | 3239-3251A                   | coefficient from a single diffusion couple. Evaluation of the methods for calculating the concentration-dependent diffusivity in binary systems.                                      | 535-543A<br>2605-2610A   |
| Theoretical calculation of nucleation temperature and the<br>undercooling behaviors of Fe-Cr alloys studied with the elec-<br>tromagnetic levitation method.  | 1827-1833A                   | Copper, Directional solidification Pore nucleation in solidifying high-purity copper.   | 2449-2453A               |
| Continuous cast shapes, Microstructure Cavity sequences in continuously cast billets. I. Analysis of empirical data.  | 751-761B                     | Copper, Extraction Simulation of the removal of arsenic during the roasting of copper concentrate.  | 393-401B                 |
| Cavity sequences in continuously cast billets. II. Stochastic models.   | 763-772B                     | Thermodynamics of the miscibility gap in the Ag-Se system. The effect of ${\sf Al_2O_3}$ on liquidus temperatures of fayalite slags.  | 589-595B<br>597-605B     |
| Development and calibration of a Karman vortex probe for  | E2 E0D                       | A thermodynamic database for copper smelting and convert-<br>ing.  The effect of MgO on liquidus temperatures of fayalite slags.  | 661-669B<br>1017-1026B   |
| measurement of molten-steel velocities.  Mathematical modeling of copper and brass upcasting.  Cavity sequences in continuously cast billets. I. Analysis of  | 53-59B<br>75-98B             | Copper, Mechanical properties   | 1017-10208               |
| empirical data.  Cavity sequences in continuously cast billets. II. Stochastic  | 751-761B                     | Bismuth embrittlement of [011] twist boundaries in copper bic-<br>rystals.  | 483-485A                 |
| models.  Investigation of transient fluid flow and heat transfer in a con-  | 763-772B                     | Influence of grain size and stacking-fault energy on deforma-<br>tion twinning in fcc metals.   | 1223-1233A               |
| tinuous casting tundish by numerical analysis verified with<br>nonisothermal water model experiments.<br>Three-dimensional modeling of the flow and the interface sur-  | 979-985B                     | Copper, Microstructure Use of microstructural statistics in predicting polycrystalline material properties.   | 969-979A                 |
| face in a continuous casting mold model.  A three-dimensional cellular automation-finite element model  | 1095-1105B                   | Copper, Powder technology<br>Shock-induced reaction synthesis of isomorphous (Cu-Ni) and  |                          |
| for the prediction of solidification grain structures.  Continuous casting, Quality control  Erratum: Investigation of inclusion re-entrainment from the  | 3153-3165A                   | immiscible (Cu-Nb) compounds.  A study on laser sintering of Fe-Cu powder compacts.   | 1367-1379A<br>2229-2235A |
| steel-slag interface. The challenge of quality in continuous casting processes. Modeling of inclusion removal in a tundish.   | 149B<br>553-566B<br>639-654B | Copper, Refining A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.  | 307-321B                 |
| Controlled atmospheres  Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under controlled atmospheric conditions.  | 2523-2538A                   | Copper, Solubility Electrochemical interfacial phenomena under microgravity. I. Anodic dissolution of copper in drop shaft.   | 99-105B                  |
|   |                              |   |                          |

### Copper base alloys, Composite materials

| Copper base alloys, Composite materials  Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifu-                          |                      | Crack initiation, Microstructural effects Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.   | 2659-2666A               |
|---|----------------------|---|--------------------------|
| gal casting. I. Theoretical analysis. Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments. | 361-367B<br>369-373B | Crack initiation, Processing effects  The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.   | 195-201A                 |
| Plasticity of continuous fiber-reinforced metals.  Copper base alloys, Diffusion  | 1843-1866A           | Crack initiation, Welding effects The thermal fatigue behavior of the combustor alloys IN 617   |                          |
| A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.  | 535-543A             | and Haynes 230 before and after welding.  Crack propagation   | 981-989A                 |
| Copper base alloys, Mechanical properties  Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading.  | 1933-1943A           | The equilibrium concentration of hydrogen atoms ahead of a<br>mixed mode I-mode III crack tip in single crystal iron.<br>Effect of in situ material properties on fatigue damage modes in | 155-159A                 |
| Copper base alloys, Phase transformations   |                      | titanium matrix composites.<br>Fatigue crack growth in Ti-matrix composites with spatially var-<br>ied interfaces.  | 255-266A<br>267-275A     |
| Stabilization and two-way shape memory effect in Cu-Al-Ni sin-<br>gle crystals.   | 493-499A             | Elastic shielding during fatigue-crack growth of titanium matrix composites.  | 277-286A                 |
| Microstructure and martensitic transformations in a dual-phase $\alpha/\beta$ Cu-Zn alloy.  | 729-739A             | Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites.   | 287-299A                 |
| Copper base alloys, Phases (state of matter) Orientation relationship between β-Mn and L2 <sub>1</sub> matrix in a  |                      | The influence of solid-state and liquid-phase bonding on fatigue at Al/Al <sub>2</sub> O <sub>3</sub> interfaces.   | 763-769A                 |
| Cu₂MnAl alloy.  Copper base alloys, Powder technology   | 1705-1716A           | An investigation of the fatigue and fracture behavior of a Nb-<br>12Al-44Ti-1.5Mo intermetallic alloy.  | 1025-1038A               |
| Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds.   | 1367-1379A           | An intergranular creep crack growth model based on grain boundary sliding.  | 1039-1045A               |
| Copper mattes, Reactions (chemical) A thermodynamic database for copper smelting and convert-   | 1307-13734           | Growth of small fatigue cracks in PH 13-8 Mo stainless steel.<br>Discussion of "Reconsideration of error in the analysis of the   | 1289-1300A               |
| ing. Thermodynamic modeling of lead distribution among matte,   | 661-669B             | wake dislocation problem" and authors' response.<br>Hydrogen embrittlement, grain boundary segregation, and<br>stress corrosion cracking of alloy X-750 in low- and high-tem-             | 1452-1459A               |
| slag, and liquid copper.  | 1033-1044B           | perature water.  Mechanisms for fracture and fatigue-crack propagation in a   | 1579-1596A               |
| Corrosion environments  The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.  | 2419-2428A           | bulk metallic glass. The debonding and fracture of Si particles during the fatigue of   | 1739-1753A               |
| Corrosion resistance, Coating effects   | 2410-24200           | a cast Al-Si alloy.<br>Environmental embrittlement caused by hydrogen for interme-  | 3079-3088A               |
| Protection of beryllium metal against microbial influenced cor-<br>rosion using silane self-assembled monolayers.   | 2129-2134A           | tallic compounds: preliminary model of ductility reduction.   | 3089-3097A               |
| Corrosion resistance, Deformation effects Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining.                                     | 1327-1331A           | Crack propagation, Alloying effects  The effects of Mg microaddition on the mechanical behavior and fracture mechanism of MAR-M247 superalloy at elevated temperatures.                   | 551-561A                 |
| Corrosive wear, Composition effects   |                      | Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy.  | 1017-1024A               |
| Synergistic effects of wear and corrosion for $Al_2O_3$ particulate-reinforced 6061 aluminum matrix composites.   | 643-651A             | The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.                       | 2007-2018A<br>2049-2058A |
| Crack closure Discussion of "Reconsideration of error in the analysis of the  | 4450 44504           | Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys with nickel additions.   | 2629-2639A               |
| wake dislocation problem" and authors' response.  Crack initiation  | 1452-1459A           | Crack propagation, Composite materials  Effect of residual magnesium content on thermal fatigue crack-  |                          |
| The effects of pre-dissolved hydrogen on cleavage and grain<br>boundary fracture initiation in metastable beta Ti-3AI-8V-6Cr.<br>4Mo-4Zr. I.  | -<br>65-79A          | ing behavior of high-silicon spheroidal graphite cast iron.  Crack propagation, Composition effects   | 1549-1558A               |
| Effect of in situ material properties on fatigue damage modes in tilanium matrix composites.  |                      | Fatigue-crack propagation behavior of ductile/brittle laminated composites.   | 633-642A                 |
| A new hot-tearing criterion.  Low-cycle fatigue crack initiation and break in strain-life curve   | 449-455A             | Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-<br>solution alloys.  | 925-939A                 |
| of Al-Li 8090 alloy.  An investigation of the fatigue and fracture behavior of a Nb-  | 887-890A             | Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys".   | 1686A                    |
| 12Al-44Ti-1.5Mo intermetallic alloy.  Statistical simulation of small fatigue crack nucleation and coa  | 1025-1038A           | Correction to erratum: Effects of Ti addition on cleavage frac-<br>ture in Nb-Cr-Ti solid solution alloys.  | 3025A                    |
| lescence in a lamellar TiAl alloy.  Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-tem                                       |                      | Crack propagation, Deformation effects  Analysis and prevention of cracking phenomenon occurring during cold forging of two AISI 1010 steel pulleys.                                      | 81-92A                   |
| perature water.  Mechanisms for fracture and fatigue-crack propagation in a   | 1579-1596A           | Crack propagation, Heating effects Fatigue and fracture of porous steels and Cu-infiltrated porous  |                          |
| bulk metallic glass.  Eutectic cell wall morphology and tensile embrittlement in fer-   | 1739-1753A           | steels.  The role of heat treating on the sour gas resistance of an X-80  | 325-334A                 |
| ritic spheroidal graphite cast iron. Environmental embrittlement caused by hydrogen for interme-  |                      | steel for oil and gas transport.  | 2419-2428A               |
| tallic compounds: preliminary model of ductility reduction.  Crack initiation, Alloying effects  The effects of Mg microadditon on the mechanical behavior                                      | 3089-3097A           | Crack propagation, High temperature effects Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature.  | 221-229A                 |
| and fracture mechanism of MAR-M247 superalloy at ele-<br>vated temperatures.  | 551-561A             | Fracture and fatigue behavior of sintered steel at elevated tem-<br>peratures. II. Fatigue crack propagation.   |                          |
| Crack initiation, Coating effects  Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.  |                      | Crack propagation, Microstructural effects  The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ-titanium aluminide based interme-                   |                          |
| Crack initiation, Composition effects   |                      | tallics.  | 563-577A                 |
| Effect of residual magnesium content on thermal fatigue crack<br>ing behavior of high-silicon spheroidal graphite cast iron.  | 1549-1558A           | Crack propagation, Processing effects Closure-affected fatigue crack propagation behaviors of pow- der metallurgy-processed Al-Li alloys in various environ-                              |                          |
| Crack initiation, Deformation effects  Analysis and prevention of cracking phenomenon occurring   |                      | ments.  The effect of solidification rate on the growth of small fatigue  | 2097-2102A               |
| during cold forging of two AISI 1010 steel pulleys.   | 81-92A               | cracks in a cast 319-type aluminum alloy.   | 3055-3068A               |

| Crack propagation, Welding effects  The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  | 981-989A                 | Current density  Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.  | 437-448A               |
|---|--------------------------|---|------------------------|
| Cracking (fracturing), Welding effects  Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding.  | 417-426A                 | Current density, Shape effects  The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells. | 341-348B               |
| Creep (materials)     An intergranular creep crack growth model based on grain boundary sliding.  | 1039-1045A               | Cutting tools, Coating Rapid thermal processing TiN coatings deposited by chemical  | 341-3400               |
| Deformed microstructure of the single-crystal superalloy<br>NASAIR 100 at 1050°C.   | 2843-2852A               | and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties.   | 2931-2939A             |
| Creep (materials), High temperature effects High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material.  | 371-376A                 | Cyclic loads  Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole   |                        |
| Creep (materials), Microstructural effects Time-dependent twinning during ambient temperature com-  |                          | heights.  Mixed-mode hydrogen-assisted cracking of high-strength steel: the role of cyclic load history.  | 777-779A<br>1882-1885A |
| pression creep of alpha Ti-0.4Mn alloy.  Creep (materials), Temperature effects Indentation power-law creep of high-purity indium.  | 1675-1679A<br>601-610A   | Cyclic loads, Composition effects  Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.   | 857-867A               |
| Elastic phase-strain distribution in a particulate-reinforced<br>metal-matrix composite deforming by slip or creep.   | 2989-2997A               | Cylinder heads, Mechanical properties Modeling high-temperature stress-strain behavior of cast alu-   | 657-607A               |
| Creep rate Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix  |                          | minum alloys.   | 133-146A               |
| composites.  Fundamental aspects of creep in metal matrix composites.  Time-dependent deformation behavior of near-eutectic 60Sn-   | 301-306A<br>315-324A     | Cylinders, Heat treatment Analysis of temperature and microstructure in the quenching of steel cylinders.   | 815-822B               |
| 40Pb solder.  Effect of matrix hardness on the creep properties of a 12CrMoVNb steel.   | 1301-1313A<br>2331-2339A | Damage<br>Application of image processing for simulation of mechanical<br>response of multi-length scale microstructures of engineering<br>alloys.                                    | 2369-2381A             |
| Creep rate, Composition effects Solid solution creep behavior of Sn-xBi alloys. Monkman-Grant analysis of creep fracture in dispersion- strengthened and particulate-reinforced aluminum. | 115-122A<br>829-838A     | Damage, Composition effects  Mechanical behavior of Al-Li/SiC composites. III. Microme- chanical modeling.  | 869-878A               |
| Creep rate, Microstructural effects The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.   | 2349-2367A               | Damage, High temperature effects Observation of fatigue damage process in SiC fiber-reinforced  |                        |
| Creep rupture strength  Effect of matrix hardness on the creep properties of a 12CrMoVNb steel.   | 2331-2339A               | Ti-15-3 composite at high temperature.  Damage tolerance, Heating effects  Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic   | 221-229A               |
| Creep rupture strength, Alloying effects Effect of small amounts of nitrogen on properties of a Ni-based superalloy.  | 1755-1761A               | steel.  Damping capacity  Damping behavior of foamed aluminum.  | 2825-2834A<br>771-776A |
| Creep rupture strength, Heating effects Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based super-                      |                          | Damping capacity, Microstructural effects Effect of deformation on the damping capacity in an Fe-23% Mn alloy.  | 667-670A               |
| alloy.  Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic steel.   | 1249-1259A<br>2825-2834A | <b>Debonding</b> The debonding and fracture of Si particles during the fatigue of a cast Al-Si alloy.   | 3079-3088A             |
| Creep strength Transverse creep of SiC/Ti-6AI-4V fiber-reinforced metal matrix composites.  | 301-306A                 | Decarburizing, Quality control  Mathematical model for nitrogen control in oxygen steelmaking.  | 945-956B               |
| Time-dependent deformation behavior of near-eutectic 60Sn-<br>40Pb solder.  Creep strength, Alloying effects  | 1301-1313A               | Decontamination Selective removal of iron contaminations from zinc-chloride melts by cementation with zinc.   | 607-611B               |
| Creep deformation and fracture of a Cr/Mo/V bolting steel con-<br>taining selected trace-element additions.  Creep strength, Composition effects  | 2049-2058A               | Deep drawing  Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire.   | 717-727A               |
| High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC <sub>p</sub> /Ti-6Al-4V composite.  Creep strength, High temperature effects  | 1569-1578A               | Deep drawing, Heating effects  Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel.   | 1663-1673A             |
| Creep behavior of an AZ91 magnesium alloy reinforced with<br>alumina fibers.  | 2059-2066A               | Defects The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.   |                        |
| Criteria A new hot-tearing criterion.   | 449-455A                 | Deformation   | 193°201A               |
| Critical temperature  Bainite transformation temperatures in high-silicon steels.  Discussion of "Superheating behavior of NiAl".   | 909-916A<br>1675A        | Mathematical modeling of the hot-deformation behavior of<br>superalloy IN718.  Deformation, Alloying effects  | 2701-2712A             |
| Superheating behavior of NiAl: Authors' reply.  Critical temperature, Heating effects Stabilization and two-way shape memory effect in Cu-Al-Ni sin-                                      | 3265A                    | Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  | 2049-2058A             |
| gle crystals.  Crystal structure  | 493-499A                 | Deformation, Heating effects  Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys.   | 2027-2035A             |
| Microstructure and martensitic transformations in a dual-phase $\alpha/\beta$ Cu-Zn alloy.  | 729-739A                 | Deformation mechanisms Fundamental aspects of creep in metal matrix composites. High-temperature deformation behavior of an Al-8.4Fe-3.6Ce  | 315-324A               |
| Crystallization, Processing effects  Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha$ + $\gamma$ -phase field.                           | 751-761A                 | dispersion-strengthened material.  Microstructure and mechanisms of cyclic deformation in aluminum single crystals at 77K. II. Edge dislocation dipole                                | 371-376A               |
| Curie temperature   |                          | heights.  | 777-779A               |
| Toward a probe for velocity measurement in molten metals at<br>high temperatures.   | 623-630B                 | Low-cycle fatigue crack initiation and break in strain-life curve<br>of Al-Li 8090 alloy.   | 887-890A               |

|   | Slip transfer and dislocation nucleation processes in mul-<br>tiphase ordered Ni-Fe-Al alloys.<br>An investigation of the fatigue and fracture behavior of a Nb-                                 | 991-1001A                | Diamond pyramid hardness, Coating effects Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering.                         | 1605-1612A               |
|---|--|--------------------------|--|--------------------------|
|   | 12AI-44Ti-1.5Mo intermetallic alloy. Influence of grain size and stacking-fault energy on deforma-   | 1025-1038A               | Diamond pyramid hardness, Heating effects  |                          |
|   | tion twinning in fcc metals.  Deformation behavior of silicon.   | 1223-1233A<br>1465-1479A | Evaluation of halide-activated pack boriding of Inconel 722.  Diamond pyramid hardness, Microstructural effects                                | 670-675A                 |
|   | Time-dependent twinning during ambient temperature com-<br>pression creep of alpha Ti-0.4Mn alloy.   | 1675-1679A               | $\beta \rightarrow \alpha^*$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys.  Diffractography                                  | 231-233A                 |
|   | The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.  Deformed microstructure of the single-crystal superalloy  | 2349-2367A               | Transmission x-ray diffraction of single-crystal nickel-base superalloys.  | 1880-1882A               |
|   | NASAIR 100 at 1050°C.  Deformation mechanisms, Composition effects   | 2843-2852A               | Prediction and characterization of variant electron diffraction patterns for $\gamma''$ and $\delta$ precipitates in an Inconel 718 alloy.     | 2297-2303A               |
|   | Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-   | 115-122A                 | Diffusion coatings, Oxidation  |                          |
|   | tions.   | 123-132A                 | Oxidation behavior of niobium aluminide intermetallics pro-<br>tected by aluminide and silicide diffusion coatings.                            | 495-504B                 |
|   | Deformation mechanisms, Temperature effects Influence of the temperature on the plastic deformation in TiAl.   | 2865-2873A               | Diffusivity  Multicomponent diffusion simulation based on finite elements.   | 2575-2582A               |
|   | Elastic phase-strain distribution in a particulate-reinforced<br>metal-matrix composite deforming by slip or creep.  | 2989-2997A               | Evaluation of the methods for calculating the concentration-<br>dependent diffusivity in binary systems.                                       | 2605-2610A               |
|   |  |                          | Diffusivity, Heating effects  A new analysis for the determination of ternary interdiffusion   |                          |
|   | interfacial reaction.  Degradation, Composition effects  | 2713-2720A               | coefficient from a single diffusion couple.  Diffusional reactions during processing of Timetal 21S/   | 535-543A                 |
|   | Degradation of residual strength in SCS-6/TI-15-3 due to fully reversed fatigue.   | 307-313A                 | Al <sub>2</sub> O <sub>3</sub> composites.  Direct chill casting   | 1437-1447A               |
|   | Dendritic structure  |                          | A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.                                 | 119-133B                 |
|   | Modeling the fluid-flow-induced stress and collapse in a den-<br>dritic network.<br>Numerical calculation of the permeability in a dendritic mushy   | 287-293B                 | A mathematical model for surface segregation in aluminum direct chill casting.   | 135-142B                 |
|   | zone.  Erratum to "Numerical calculation of the permeability in a den-   | 613-622B                 | Direct reduced iron, Reactions (chemical)  |                          |
|   | dritic mushy zone".  Dendrite growth processes of silicon and germanium from   | 1107B                    | Mathematical modeling of pneumatic char injection in a direct<br>reduction rotary kiln.  | 969-977B                 |
|   | highly undercooled melts.  Dendritic morphology observed in the solid-state precipitation  | 1333-1339A               | Directionally solidified eutectics, Casting The heat-transfer coefficient during the unidirectional solidifica-                                |                          |
|   | in binary alloys.  Cell/dendrite distribution in directionally solidified hypoeutectic   | 1529-1534A               | tion of an Al-Si alloy casting.  Directionally solidified eutectics, Heat treatment  | 473-482B                 |
|   | Pb-Sb alloys.  Macrosegregation caused by thermosolutal convection during  | 2159-2165A               | Development of a heat treatment for a directionally solidified<br>cobalt-base superalloy.  | 2251-2254A               |
|   | directional soldification of Pb-Sb alloys.<br>Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures.                                     | 2167-2171A<br>2455-2462A | Directionally solidified eutectics, Mechanical properties<br>Slip transfer and dislocation nucleation processes in mul-                        |                          |
|   | Cellular/dendritic array tip morphology during directional solidi-<br>fication of Pb-5.8 wt.% Sb alloy.  | 2463-2472A               | tiphase ordered Ni-Fe-Al alloys.  Deformation and fracture behavior of a directionally solidified β/   | 991-1001A                |
|   | Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.  | 2659-2666A               | γ' Ni-30 at.% Al alloy.<br>Effect of small amounts of nitrogen on properties of a Ni-based   | 1003-1015A               |
|   | Dendritic structure, Cooling effects   |                          | superalloy.<br>Influence of calcium addition on the superplastic-like behavior   | 1755-1761A               |
| - | <ul> <li>Discussion of "Dendrite growth processes of silicon and ger-<br/>manium from highly undercooled melts" and authors' reply.</li> <li>Dendritic structure, Deformation effects</li> </ul> | 3011-3016A               | of extruded AI-AI <sub>3</sub> M eutectic alloy.<br>Microstructural effects on high-cycle fatigue-crack initiation in<br>A356.2 casting alloy. | 2258-2260A<br>2659-2666A |
| , | Deformed microstructure of the single-crystal superalloy<br>NASAIR 100 at 1050°C.  | 2843-2852A               | Directionally solidified eutectics, Microstructure Cell/dendrite distribution in directionally solidified hypoeutectic                         |                          |
|   | Dendritic structure, Field effects<br>Suppression of channel convection in solidifying Pb-Sn alloys  |                          | Pb-Sb alloys.  Macrosegregation caused by thermosolutal convection during  | 2159-2165A               |
|   | via an applied magnetic field.  Dendritic growth tip velocities and radii of curvature in micro-   | 1809-1815A               | directional soldification of Pb-Sb alloys.  Directionally solidified eutectics, Phase transformations  | 2167-2171A               |
|   | gravity.  Dendritic structure, Processing effects  | 3177-3190A               | Secondary carbide precipitation in a directionally solidified<br>cobalt-base superalloy.   | 513-520A                 |
|   | Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds.  | 1367-1379A               | Disks, Casting Relation between cooling rates and microstructures in gravity- die-cast AZ91D disks.  | 723-729B                 |
|   | Densification Densification during the supersolidus liquid-phase sintering of  |                          | Dislocation density  | 123-1290                 |
|   | nickel-based prealloyed powder mixtures.  A study on laser sintering of Fe-Cu powder compacts.  Densification and shape distortion in liquid-phase sintering.                                    | 2201-2208A<br>2229-2235A | Deformation behavior of silicon.  Dislocation loops  | 1465-1479A               |
|   | Density, Processing effects  | 3211-3217A               | A general numerical method to solve for dislocation configura-<br>tions.   | 2073-2087A               |
|   | High-energy x-ray computed tomography of the progression of<br>the solidification front in pure aluminum.  | 1403-1409A               | Dislocation mobility Deformation behavior of silicon.  | 1465-1479A               |
|   | Deoxidizing Quantitative evaluation of inclusion in deoxidation of Fe-10   |                          | Dislocation mobility, Composition effects  |                          |
|   | mass% Ni alloy with Si, T, Al, Zr, and Ce.  Analysis of size distributions of primary oxide inclusions in Fe-  | 249-257B                 | Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.                          | 115-122A                 |
|   | 10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.  A pilot-scale trial of an improved galvanic deoxidation process   | 259-270B                 | tions.  Dislocation mobility, Temperature effects  | 123-132A                 |
|   | for refining molten copper.  Thermodynamics of yttrium and oxygen in molten zirconium.   | 307-321B<br>352-354B     | Influence of the temperature on the plastic deformation in TiAl.  Dislocations   | 2865-2873A               |
|   | Thermodynamics of nucleation and supersaturation for the alu-<br>minum-deoxidation reaction in liquid iron.  | 1065-1074B               | Slip transfer and dislocation nucleation processes in mul-<br>tiphase ordered Ni-Fe-Al alloys.   | 991-1001A                |
|   | Dephosphorizing Activity coefficient of nickel oxide in BaO-based slags.   | 143-144B                 | Dislocations, Deformation effects Microstructure and mechanisms of cyclic deformation in alumi-  |                          |
|   | <b>Desulfurizing</b> Activity coefficient of nickel oxide in BaO-based slags.  | 143-144B                 | num single crystals at 77K. II. Edge dislocation dipole<br>heights.  | 777-779A                 |
|   |  |                          |  |                          |

| 1000  |                          | Liecti on bear   | ii iicatiiig |
|---|--------------------------|--|--------------|
| Dislocations, kink bands, and room-temperature plasticity of Ti <sub>3</sub> SiC <sub>2</sub> .   | 1727-1738A               | Ductility, Stress effects  Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading.  | 949-959A     |
| Dispersion hardening alloys, Crystal growth Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differen- tial scanning calorimetry.                     | 1885-1887A               | Duplex stainless steels, Welding A process model for the heat-affected zone microstructure evolution in duplex stainless steel weldments. I. The model.                                    | 2915-2929A   |
| Dispersion hardening alloys, Mechanical properties High-temperature deformation behavior of an Al-8.4Fe-3.6Ce dispersion-strengthened material. Monkman-Grant analysis of creep fracture in dispersion-           | 371-376A                 | Dynamic mechanical properties, Microstructural effects Effect of size and shape of tungsten particles on dynamic tor- sional properties in tungsten heavy alloys.                          | 1261-1273A   |
| strengthened and particulate-reinforced aluminum.   | 829-838A                 | Economics Sustainability: The materials role.  | 895-908A     |
| Dispersions Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.   | 1053-1063B               | Edge dislocations A general numerical method to solve for dislocation configurations.  | 2073-2087A   |
| Dissimilar materials, Bonding  The influence of solid-state and liquid-phase bonding on fatigue at Al/Al <sub>2</sub> O <sub>3</sub> interfaces.  | 763-769A                 | Elastic anisotropy Prediction of yield surfaces of textured sheet metals.  | 377-386A     |
| Dissimilar metals, Bonding Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system.  | 3111-3124A               | Bauschinger effect and multiaxial yield behavior of stress-<br>reversed mild steel.  Elastic anisotropy, Deformation effects   | 3069-3078A   |
| Distortion, Processing effects Application of percolation theory in predicting shape distortion during liquid-phase sintering.  | 2209-2220A               | The influence of rolling practice on notch toughness and tex-<br>ture development in high-strength linepipe.   | 3045-3054A   |
| Densification and shape distortion in liquid-phase sintering.  Drawability  | 3211-3217A               | Elastic anisotropy, Microstructural effects Precipitate-induced plastic anisotropy: explicit solutions of the plastic anisotropy due to plate-shaped precipitates.                         | 1283-1288A   |
| A general approach for predicting the drawing fracture load<br>and limit drawing ratio of an axisymmetric drawing process.  Drawability, Heating effects  | 2619-2627A               | Elastic constants, Microstructural effects Use of microstructural statistics in predicting polycrystalline material properties.  | 969-979A     |
| Aluminum nitride precipitation and texture development in<br>batch-annealed bake-hardening steel.  Drawing  | 1663-1673A               | Electric arcs Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels.   | 3263-3265A   |
| A general approach for predicting the drawing fracture load<br>and limit drawing ratio of an axisymmetric drawing process.  | 2619-2627A               | Electric circuits, Reactions (chemical) Thermodynamic modeling of the palladium-lead-tin system.   | 5-18A        |
| Dual phase steels, Metal working A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process.  | 2619-2627A               | Electric connectors, Soldering Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  | 1301-1313A   |
| Ductile brittle transition Deformation and fracture behavior of a directionally solidified β/ γ Ni-30 at.% Al alloy.  | 1003-1015A               | Electric contacts, Fabrication Processing copper and silver matrix composites by electroless plating and hot pressing.   | 1119-1136A   |
| Ductile fracture  The influence of tensile stress states on the failure of HY-100 steel.  Ductile fracture, Composition effects   | 2835-2842A               | Electroless copper plating Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formalde-  |              |
| High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC <sub>p</sub> /Ti-6Al-4V composite.  | 1569-1578A               | hyde concentrations.  Electroless plating Processing copper and silver matrix composites by electroless  | 223-229B     |
| Ductility Deformation and fracture behavior of a directionally solidified β/ γ Ni-30 at.% Al alloy.   | 1003-1015A               | plating and hot pressing.  Electrolytic cells, Design  | 1119-1136A   |
| An investigation of the fatigue and fracture behavior of a Nb-<br>12Al-44Ti-1.5Mo intermetallic alloy.<br>On the occurrence of dynamic strain aging in near-alpha alloy<br>Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. | 1025-1038A<br>2547-2549A | A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.  The influence of the initial shape and position of an anode and                               | 307-321B     |
| The influence of tensile stress states on the failure of HY-100 steel.  Environmental embrittlement caused by hydrogen for interme-   | 2835-2842A               | the curvature of the aluminum on the current distribution in<br>prebaked aluminum cells.  Electromagnetic fields   | 341-348B     |
| tallic compounds: preliminary model of ductility reduction.  Ductility, Alloying effects The effects of Mg microadditon on the mechanical behavior  | 3089-3097A               | A mathematical model for the dynamic behavior of melts sub-<br>jected to electromagnetic forces. II. Measurement of surface<br>waves and comparison with predictions of the mathematical   | 004 0005     |
| and fracture mechanism of MAR-M247 superalloy at ele-<br>vated temperatures.  The effect of Sr and Fe additions on the microstructure and   | 551-561A                 | model.  Electromagnetic induction A mathematical model for the dynamic behavior of melts sub-  | 331-339B     |
| mechanical properties of a direct squeeze cast Al-7Si-0.3Mg<br>alloy.<br>Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys   | 1341-1356A               | jected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model.  | 331-339B     |
| with nickel additions.  Ductility, Composition effects  | 2629-2639A               | Electromagnetic stirring  A mathematical model for the dynamic behavior of melts sub-  |              |
| Microstructure and mechanical behavior of spray-deposited<br>high-Li Al-Li alloys.  The effect of Mg on the microstructure and mechanical behav-  |                          | jected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model.  | 331-339B     |
| ior of Al-Si-Mg casting alloys.  Ductility, Cryogenic effects Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-  | 2611-2618A               | Electrometallurgy Kinetics and mechanism of electroless copper deposition at moderate-to-high copper ion and low-to-moderate formalde-   |              |
| Zr alloys at 293 and 77K.  Ductility, Deformation effects   | 2254-2258A               | hyde concentrations.  Selective removal of iron contaminations from zinc-chloride  | 223-229B     |
| Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.   | 2503-2512A               | melts by cementation with zinc.  Electron beam hardening Surface hardening of a gray cast iron used for a diesel engine  | 607-611B     |
| Ductility, Heating effects Effect of alloy preheating on the mechanical properties of as- cast Co-Cr-Mo-C alloys.   | 611-620A                 | cylinder block using high-energy electron beam irradiation.  Electron beam heating   | 1211-1221A   |
| Ductility, Microstructural effects Slip transfer and dislocation nucleation processes in multiphase ordered Ni-Fe-Al alloys.  | 991-1001A                | Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties. | 2931-2939A   |
|   |                          |  |              |

| Electron beam processing Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings. Mathematical modeling of a melt pool driven by an electron | 427-435A               | Epitaxial growth<br>Rapid epitaxial growth of conducting and insulating III-V com-<br>pounds on (001), (110), (111)A, and (311)B surfaces by<br>hydride vapour phase epitaxy.       | 1047-1051A               |
|--|------------------------|---|--------------------------|
| beam.  Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by   | 515-525B<br>3131-3141A | Epitaxy Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by   | 1047 1051 A              |
| high-energy electron beam irradiation.   | 3131-3141A             | hydride vapour phase epitaxy.   | 1047-1051A               |
| Electron beam welding Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy.  The role of phase transformation in electron-beam welding of            | 789-798A               | Equal channel angular extrusion Finite-element modeling of nonisothermal equal-channel angular extrusion. Workability of commercial-purity titanium and 4340 steel during           | 1391-1402A               |
| TiAl-based alloys.   | 1717-1726A             | equal channel angular extrusion at cold-working tempera-  |                          |
| Comparison of three different techniques for measuring the<br>residual stresses in an electron beam-welded plate of<br>Waspaloy.   | 1797-1808A             | tures.  Equal channel angular extrusion, Microstructural effects Hot working of Ti-6Al-4V via equal channel angular extrusion.  | 1425-1435A<br>2473-2481A |
| Electron beams Microstructure of TiB <sub>2</sub> /carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation.   | 3143-3151A             | Equal channel angular pressing<br>Influence of pressing speed on microstructural development in<br>equal-channel angular pressing.  | 1989-1997A               |
| Electron diffraction Prediction and characterization of variant electron diffraction patterns for γ² and δ precipitates in an Inconel 718 alloy.   | 2297-2303A             | Equiaxed structure Experimental determination of mushy zone permeability in aluminum-copper alloys with equiaxed microstructures.   | 2455-2462A               |
| Electronic devices, Soldering Investigation of the phase equilibria in the Sn-Bi-In alloy system.  | 1503-1515A             | Hot working of Ti-6Al-4V via equal channel angular extrusion.  Erosion  Erosion of SS41 steel by sand blasting.   | 2473-2481A<br>941-948A   |
| Electroplates, Mechanical properties   | 1000-1010A             | Modeling solid-particle erosion of ductile alloys.  | 1763-1774A               |
| Microcracking of flash coatings and its effect on the Zn-Ni coat-<br>ing adhesion of electrodeposited sheet steel.   | 437-448A               | Erosion resistance, Coating effects Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.                             | 961-968A                 |
| Electroplates, Microstructure Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.   | 681-695A               | Eutectoid reactions Thermodynamic prediction of the eutectoid transformation temperatures of low-alloy steels.  | 2325-2330A               |
| Electroplating Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.   | 437-448A               | Explosions Triggering steam explosions of single drops of a molten ferro- silicon alloy with a simple encapsulated mechanical impactor.   | 1083-1088B               |
| <b>Electrowinning</b> Strategies for optimal operation of the tellurium electrowinning process.  | 5-13B                  | Explosive compacting Hot explosive compaction of Mo-Ti alloys.  | 2483-2489A               |
|  | 5-136                  | Extrusions, Mechanical properties   |                          |
| Elongated structure, Heating effects  The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I.  | 2305-2323A             | Microstructure-property relations in as-extruded ultrahigh-car-<br>bon steels.<br>Microstructures and tensile properties of an Al-12 wt.% Si alloy                                  | 1559-1568A               |
| Elongation Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction.   | 3089-3097A             | produced by reciprocating extrusion.  Extrusions, Welding  A process model for the heat-affected zone microstructure evo-   | 2503-2512A               |
| Elongation, Alloying effects   |                        | lution in Al-Zn-Mg weldments.   | 2667-2677A               |
| Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.  | 1185-1191A             | Failure analysis The influence of tensile stress states on the failure of HY-100 steel.   | 2835-2842A               |
| Elongation, Composition effects High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC <sub>p</sub> /Ti-6Al-4V composite.   | 1569-1578A             | Fatigue failure  Effect of in situ material properties on fatigue damage modes in titanium matrix composites.   | 255-266A                 |
| Elongation, Deformation effects  |                        | Fatigue crack growth in Ti-matrix composites with spatially var-  |                          |
| Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.  | 2503-2512A             | ied interfaces.  Elastic shielding during fatigue-crack growth of titanium matrix   | 267-275A                 |
| Elongation, Microstructural effects  |                        | composites.  Evaluation of the MMCLIFE 3.0 code in predicting crack growth  | 277-286A                 |
| A fine γ'+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature   |                        | in titanium aluminide composites.  The influence of solid-state and liquid-phase bonding on   | 287-299A                 |
| tensile properties.  Microstructure-property relations in as-extruded ultrahigh-car-   | 1495-1501A             | fatigue at Al/Al <sub>2</sub> O <sub>3</sub> interfaces.<br>Low-cycle fatigue crack initiation and break in strain-life curve   | 763-769A                 |
| bon steels.  | 1559-1568A             | of Al-Li 8090 alloy.  | 887-890A                 |
| Embrittlement  Eutectic cell wall morphology and tensile embrittlement in fer-   |                        | An investigation of the fatigue and fracture behavior of a Nb-<br>12Al-44Ti-1.5Mo intermetallic alloy.  | 1025-1038A               |
| ritic spheroidal graphite cast iron.   | 1775-1784A             | Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.   | 1203-1209A               |
| Embrittlement, Alloying effects Bismuth embrittlement of [011] twist boundaries in copper bicrystals.  | 483-485A               | Growth of small fatigue cracks in PH 13-8 Mo stainless steel.<br>Discussion of "Reconsideration of error in the analysis of the<br>wake dislocation problem" and authors' response. | 1289-1300A               |
| Embrittlement, Microstructural effects   |                        | Mechanisms for fracture and fatigue-crack propagation in a<br>bulk metallic glass.  | 1739-1753A               |
| A fine γ'+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature   |                        | Mixed-mode hydrogen-assisted cracking of high-strength steel:<br>the role of cyclic load history.   | 1882-1885A               |
| tensile properties.  | 1495-1501A             | The debonding and fracture of Si particles during the fatigue of<br>a cast Al-Si alloy.   | 3079-3088A               |
| Energy conservation Sustainability: The materials role.  | 895-908A               | Fatigue failure, Composite materials Effect of residual magnesium content on thermal fatigue crack-   |                          |
| Engine blocks, Heat treatment Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation.   | 1211-1221A             | ing behavior of high-silicon spheroidal graphite cast iron.  Fatigue failure, Composition effects   | 1549-1558A               |
| Enthalpy   |                        | Fatigue-crack propagation behavior of ductile/brittle laminated composites.   | 633-642A                 |
| A thermodynamic interpretation of the size-ratio limits for<br>Laves phase formation.  | 1449-1452A             | Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.  | 857-867 <i>A</i>         |
| A self-consistent model for predicting interaction parameters in<br>multicomponent alloys.   | 3099-3102A             | Fatigue in selectively fiber-reinforced titanium matrix composites.   | 2237-2248                |

| 1333  |                          | riber composites, mechanical p   | roperties                |
|---|--------------------------|--|--------------------------|
| Fatigue failure, High temperature effects Observation of fatigue damage process in SiC fiber-reinforced Ti-15-3 composite at high temperature.                          | 221-229A                 | Ferrous alloys, Coatings Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by   |                          |
| Fracture and fatigue behavior of sintered steel at elevated tem-<br>peratures. I. Fracture toughness.   | 2885-2893A               | high-energy electron beam irradiation.   | 3131-3141A               |
| Fracture and fatigue behavior of sintered steel at elevated tem-<br>peratures. II. Fatigue crack propagation.   | 2895-2904A               | Ferrous alloys, Composite materials Interaction between nonstoichiometric titanium carbide and Fe- C alloys.   | 857-863B                 |
| Fatigue failure, Microstructural effects The effect of microstructure on fracture toughness and fatigue crack growth behavior in γ-titanium aluminide based interme-    |                          | Ferrous alloys, Crystal growth Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.   | 1053-1063B               |
| tallics.  Microstructural effects on high-cycle fatigue-crack initiation in A356.2 casting alloy.   | 563-577A<br>2659-2666A   | Role of back-diffusion studied by computer simulation.<br>Theoretical calculation of nucleation temperature and the  | 1635-1641A               |
| Fatigue failure, Processing effects  The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.  | 195-201A                 | undercooling behaviors of Fe-Cr alloys studied with the elec-<br>tromagnetic levitation method.  Recrystallization activation energy in mechanically alloyed<br>oxide-dispersion-strengthened metals measured by differen- | 1827-1833A               |
| Closure-affected fatigue crack propagation behaviors of pow-<br>der metallurgy-processed Al-Li alloys in various environ-<br>ments.                                     | 2097-2102A               | tial scanning calorimetry.  Ferrous alloys, Diffusion  | 1885-1887A               |
| The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy.  | 3055-3068A               | A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.   | 535-543A                 |
| Fatigue life Elastic shielding during fatigue-crack growth of titanium matrix composites.   | 277-286A                 | Ferrous alloys, Mechanical properties  Environmental embrittlement caused by hydrogen for intermetallic compounds: preliminary model of ductility reduction.   | 3089-3097A               |
| Evaluation of the MMCLIFE 3.0 code in predicting crack growth<br>in litanium aluminide composites.<br>Statistical simulation of small fatigue crack nucleation and coa- | 287-299A                 | Ferrous alloys, Microstructure A fine $\gamma$ + $\alpha$ cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature   |                          |
| lescence in a lamellar TiAl alloy.  Growth of small fatigue cracks in PH 13-8 Mo stainless steel.  Mechanisms for fracture and fatigue-crack propagation in a           | 1203-1209A<br>1289-1300A | tensile properties.  Effect of the primary phase on grain coarsening in undercooled Fe-Co alloys.  | 1495-1501A<br>2941-2949A |
| bulk metallic glass.  | 1739-1753A               | Ferrous alloys, Phase transformations  |                          |
| Fatigue life, Coating effects  Tensile properties of duplex metal-coated SiC fiber and titanium alloy matrix composites.  | 3019-3024A               | Kinetics of homogeneous martensitic nucleation in iron-based alloys.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.  The Ritary Rates prostation relationship in formula possible of                        | 884-887A<br>2599-2604A   |
| Fatigue life, Composition effects Degradation of residual strength in SCS-6/TI-15-3 due to fully  |                          | The Pitsch-Petch orientation relationship in ferrous pearlite at<br>small undercooling.  | 2767-2781A               |
| reversed fatigue. Fatigue in selectively fiber-reinforced titanium matrix compos-<br>ites.  | 307-313A<br>2237-2248A   | Ferrous alloys, Physical properties  Effect of deformation on the damping capacity in an Fe-23%  Mn alloy.   | 667-670A                 |
| Fatigue life, High temperature effects  Modeling high-temperature stress-strain behavior of cast aluminum alloys.   | 133-146A                 | Ferrous alloys, Powder technology A study on laser sintering of Fe-Cu powder compacts.   | 2229-2235A               |
| Fatigue life, Welding effects The thermal fatigue behavior of the combustor alloys IN 617   | 091 090 A                | Ferrous alloys, Reactions (chemical) A self-consistent model for predicting interaction parameters in<br>multicomponent alloys.  | 3099-3102A               |
| and Haynes 230 before and after welding.  Fatigue limit  Growth of small fatigue cracks in PH 13-8 Mo stainless steel.  | 981-989A<br>1289-1300A   | Ferrous alloys, Reduction (chemical)  Quantitative evaluation of inclusion in deoxidation of Fe-10  mass% Ni alloy with Si, T, Al, Zr, and Ce.   | 249-257B                 |
| Fatigue strength An investigation of the fatigue and fracture behavior of a Nb-   | 1025-1038A               | Analysis of size distributions of primary oxide inclusions in Fe-<br>10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.   | 259-270B                 |
| 12Al-44Ti-1.5Mo intermetallic alloy.  Fatigue strength, Alloying effects The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.                                    | 2007-2018A               | Ferrous alloys, Refining<br>Model study on mixing and mass transfer in ferroalloy refining<br>processes.   | 231-239B                 |
| Fatigue strength, Processing effects  The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.   | 195-201A                 | Fiber composites, Casting<br>Infiltration of fibrous preforms by a pure metal. V. Influence of<br>preform compressibility.   | 471-482A                 |
| FCC metals, Mechanical properties   | 193-201A                 | Reactive infiltration of silicon melt through microporous amor-<br>phous carbon preforms.  | 933-944B                 |
| Influence of grain size and stacking-fault energy on deforma-<br>tion twinning in foc metals.   | 1223-1233A               | Modeling of composite growth in the directed aluminum melt<br>nitridation process.   | 2951-2958A               |
| Ferritic stainless steels, Crystal growth  The solidification characteristics of laser surface-remelted Fe- 12Cr-nC alloys.   | 1817-1826A               | Fiber composites, Diffusion  Diffusional reactions during processing of Timetal 21S/  Al <sub>2</sub> O <sub>3</sub> composites.   | 1437-1447A               |
| Ferritic stainless steels, Mechanical properties Effect of matrix hardness on the creep properties of a 12CrMoVNb steel.  | 2331-2339A               | Fiber composites, Mechanical properties  The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.   | 195-201A                 |
| Ferritic stainless steels, Oxidation Improvement of hardness and resistance of oxidation by elec-   | 2062 2065 4              | Observation of fatigue damage process in SiC fiber-reinforced<br>Ti-15-3 composite at high temperature.<br>Effect of in situ material properties on fatigue damage modes in  | 221-229A                 |
| tric arc alloying on ferritic steels.  Ferritic stainless steels, Welding  Microstructural zones in the primary solidification structure of                             | 3263-3265A               | titanium matrix composites. Fatigue crack growth in Ti-matrix composites with spatially var-<br>ied interfaces.  | 255-266A<br>267-275A     |
| weldment of 9Cr-1Mo steel.  Ferromagnetism  | 161-174A                 | Elastic shielding during fatigue-crack growth of titanium matrix composites.   | 277-286A                 |
| Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-<br>ory alloys.  | 2721-2723A               | Evaluation of the MMCLIFE 3.0 code in predicting crack growth<br>in titanium aluminide composites.  Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix  | 287-299A                 |
| Ferronickel, Crystal growth Investigation of the surface of the liquidus of the Fe-Ni-S system at $X_s$ <0.51.  | 715-722B                 | composites.  Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum.  | 301-306A<br>815-824A     |
| Ferrosilicon, Melting Influence of pellet composition and structure on carbothermic   |                          | Processing copper and silver matrix composites by electroless plating and hot pressing.  | 1119-1136A               |
| reduction of silica.  Ferrosilicon, Reactions (chemical)  | 295-306B                 | The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.  Plasticity of continuous fiber-reinforced metals.   | 1835-1841A<br>1843-1866A |
| Triggering steam explosions of single drops of a molten ferro-<br>silicon alloy with a simple encapsulated mechanical impactor.   | 1083-1088B               | Creep behavior of an AZ91 magnesium alloy reinforced with<br>alumina fibers.   | 2059-2066A               |

| Fiber composites, Reactions (chemical)   |  |   | Volume 30                |
|--|--|---|--------------------------|
| Fatigue in selectively fiber-reinforced titanium matrix composites.  | 2237-2248A                             | The effect of solidification rate on the growth of small fatigue cracks in a cast 319-type aluminum alloy.  | 3055-3068A               |
| Effect of fiber spatial arrangement on the transverse strength of titanium matrix composites.<br>Degradation mechanism of SiC/super $\alpha_2$ composite due to  | 2513-2522A                             | Fracture mechanics An intergranular creep crack growth model based on grain   | 4000 40454               |
| interfacial reaction.  | 2713-2720A                             | boundary sliding.  Mechanisms for fracture and fatigue-crack propagation in a   | 1039-1045A               |
| Tensile properties of duplex metal-coated SiC fiber and tita-<br>nium alloy matrix composites.   | 3019-3024A                             | bulk metallic glass. Degradation mechanism of SiC/super $\alpha_2$ composite due to   | 1739-1753A               |
| Fiber composites, Reactions (chemical) Interface characterization of duplex metal-coated SiC fiber- reinforced Ti-15-3 matrix composites.  | 653-666A                               | interfacial reaction. Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation.  | 2713-2720A<br>2895-2904A |
| Fiber composites, Thermal properties  Thermal expansion of morphologically textured short-fiber composites.  | 203-212A                               | Fracture strength Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-tem- perature water.  | 1579-1596A               |
| Influence of the localized initial plastic deformation on the<br>effective thermomechanical response of metal-matrix com-<br>posites.  | 2875-2884A                             | A general approach for predicting the drawing fracture load and limit drawing ratio of an axisymmetric drawing process.   | 2619-2627A               |
| Fiber orientation Thermal expansion of morphologically textured short-fiber  |  | Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system.   | 3111-3124A               |
| composites.  Filler metal, Mechanical properties Hot cracking susceptibility of fillers 52 and 82 in alloy 690 weld-   | 203-212A                               | Fracture strength, Deformation effects  Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.   | 2503-2512A               |
| not cracking susceptibility of fillers 52 and 62 in alloy 690 welding.  Filtration   | 417-426A                               | Fracture toughness  Correlation of microstructure and microfracture mechanism of five work rolls.   | 234-243A                 |
| Analyses of the dynamic processes of liquid metal filtration.  Finite element method   | 891-900B                               | Fracture toughness, Alloying effects The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.  | 2007-2018A               |
| Analysis of temperature and microstructure in the quenching of<br>steel cylinders.   | 815-822B                               | Fracture toughness, Composition effects Fatigue-crack propagation behavior of ductile/brittle laminated   | 2007-2010A               |
| Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading.   | 949-959A                               | composites.  Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-   | 633-642A                 |
| LDV measurements and computation of a turbulent circular jet<br>placed non-concentrically in a confining pipe.<br>Finite-element modeling of nonisothermal equal-channel angu-                               | 957-967B                               | solution alloys.  Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti   | 925-939A                 |
| lar extrusion.  A general numerical method to solve for dislocation configura-   | 1391-1402A                             | solid-solution alloys".  Correction to erratum: Effects of Ti addition on cleavage fracture in Nic CT Ti call deals tion alloys.  | 1686A<br>3025A           |
| tions. Application of image processing for simulation of mechanical  | 2073-2087A                             | ture in Nb-Cr-Ti solid solution alloys. A dual composite of WC-Co.  | 3231-3238A               |
| response of multi-length scale microstructures of engineering alloys.  Effect of fiber spatial arrangement on the transverse strength  | 2369-2381A                             | Fracture toughness, Corrosion effects<br>Degradation mechanism of SiC/super $\alpha_2$ composite due to<br>interfacial reaction.  | 2713-2720A               |
| of titanium matrix composites.  Multicomponent diffusion simulation based on finite elements. Interaction energy between martensitic variants. Elastic phase-strain distribution in a particulate-reinforced | 2513-2522A<br>2575-2582A<br>2583-2590A | Fracture toughness, Heating effects Fatigue and fracture of porous steels and Cu-infiltrated porous steels.   | 325-334A                 |
| metal-matrix composite deforming by slip or creep.  Finite-element method simulation of effects of microstructure, stress state, and interface strength on flow localization and                             | 2989-2997A                             | Fracture toughness, High temperature effects Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness.   | -<br>2885-2893A          |
| constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  Fluid flow  | 3239-3251A                             | Fracture and fatigue behavior of sintered steel at elevated tem-<br>peratures. II. Fatigue crack propagation.   |                          |
| A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Modeling macro- and microstructures of gas-metal-arc welded                                  | 119-133B                               | Fracture toughness, Impurity effects Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel.   | 2089-2096A               |
| HSLA-100 steel.  Discussion of "Decay of fluid motion in a filling ladle after tapping" and author's reply.  Investigation of transient fluid flow and heat transfer in a con-                               | 483-493B<br>541-543B                   | Fracture toughness, Microstructural effects The effects of grain-refining precipitates on the development of toughness in 4340 steel. The effects of grain-refining precipitates on the development of toughness in 4340 steel. | 93-114A                  |
| tinuous casting tundish by numerical analysis verified with nonisothermal water model experiments.   | 979-985B                               | The effect of microstructure on fracture toughness and fatigue<br>crack growth behavior in γ-titanium aluminide based interme<br>tallics.   |                          |
| Fluxes, Materials selection  Effect of flux addition on the microstructure and hardness of TiC-reinforced ferrous surface composite layers fabricated by   |  | Fracture toughness, Processing effects Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys.   | 171-188B                 |
| high-energy electron beam irradiation.  Microstructure of TiB <sub>2</sub> /carbon steel surface-alloyed materials   | 3131-3141A                             | Fracture toughness, Stress effects  | 171-1000                 |
| fabricated by high-energy electron beam irradiation.  Fluxes, Reactions (chemical)   | 3143-3151A                             | The influence of internal stresses on the fracture toughness of $\alpha/\beta$ titanium alloys.   | 2853-2863A               |
| A thermodynamic study of BaO-BaF <sub>2</sub> -Cr <sub>2</sub> O <sub>3</sub> system fluxes used for dephosphorization of chromium-containing iron melts.  | 451-457B                               | Fracturing Evidence of void nucleation and growth on planar slip bands in a Nb-Cr-Ti alloy.   | 579-585A                 |
| Foamed metals, Physical properties Damping behavior of foamed aluminum.  | 771-776A                               | Fracturing, Composition effects Correlation of tensile strength with fracture modes of KAO-WOOL- and SAFFIL-reinforced 339 aluminum.  | 815-824A                 |
| Formability Computer simulation of annealing and recovery effects on ser-  |  | Monkman-Grant analysis of creep fracture in dispersion-<br>strengthened and particulate-reinforced aluminum.  | 829-838A                 |
| rated flow in some Al-Mg alloys.  Forming  | 387-397A                               | Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.   |                          |
| Prediction of yield surfaces of textured sheet metals.  Computer simulation of annealing and recovery effects on serrated flow in some Al-Mg alloys.   | 377-386A<br>-<br>387-397A              | Fracturing, Deformation effects Finite-element modeling of nonisothermal equal-channel angular extrusion.   |                          |
| Foundry practice   |  | Cavitation and failure during hot forging of Ti-6Al-4V.   | 1411-1424A               |

1643-1650A

1651-1655A

1657-1662A

1425-1435A

2027-2035A

Cavitation and failure during hot forging of Ti-6Al-4V.

Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working tempera-

Fracturing, Heating effects
Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys.

Foundry practice
The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.

casting alloys. III. A microstructural model.

The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.

The role of iron in the formation of porosity in Al-Si-Cu-based

|  |                          | ,,   |                          |
|--|--------------------------|--|--------------------------|
|  | 2473-2481A               | Grain growth  An analytical model for nodular eutectic grain predictions dur- ing solidification.  | 927-932B                 |
| Free energy A self-consistent model for predicting interaction parameters in multicomponent alloys.  | 3099-3102A               | Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure. Investigation of microstructural coarsening in Sn-Pb alloys.         | 1053-1063B<br>1541-1547A |
| Friction Finite-element modeling of nonisothermal equal-channel angular extrusion.   | 1391-1402A               | Grain growth, Alloying effects  The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy.   | 627-632A                 |
| Friction welding Microstructural evolution of 6063 aluminum during friction-stir welding.  | 2429-2437A               | Grain growth, Cooling effects  Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply.  | 3011-3016A               |
| Precipitation sequence in friction stir weld of 6063 aluminum<br>during aging.   | 3125-3130A               | Grain growth, Diffusion effects Growth of silicides and interdiffusion in the Mo-Si system.  | 545-550A                 |
| Frictional wear<br>Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.  | 2019-2026A               | Grain refinement The effects of grain-refining precipitates on the development of  |                          |
| Frictional wear, Environmental effects  Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under controlled atmospheric conditions.   | 2523-2538A               | toughness in 4340 steel.  Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature.  | 93-114A<br>1613-1623A    |
| Fused salts Preparation and physical characteristics of a lithium-beryllium- substituted fluorapatite.   | 147-153A                 | Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm.  Grain size  | 1625-1633A               |
| Gallium, Binary systems Thermodynamics of Ca-Ga alloys.  | 459-464B                 | The effects of grain-refining precipitates on the development of<br>toughness in 4340 steel.<br>Influence of grain size on the constitutive response and sub-                                    | 93-114A                  |
| Gallium base alloys  Lattice correspondence and fivefold twins of the orthorhombic   | 439-404B                 | structure evolution of Monel 400.<br>Investigation of microstructural coarsening in Sn-Pb alloys.  | 1235-1247A<br>1541-1547A |
| (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy.<br>Gallium base alloys, Crystal lattices  | 697-705A                 | The effect of grain size and temperature on the superplastic<br>deformation behavior of a 7075 Al alloy.<br>The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.                        | 2037-2047A<br>2349-2367A |
| Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy.   | 697-705A                 | Grain size, Alloying effects Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.   | 1185-1191A               |
| Gallium base alloys, Phases (state of matter) Thermodynamics of Ca-Ga alloys.  Galvanized steels, Coating  | 459-464B                 | Grain size, Cooling effects Effect of the primary phase on grain coarsening in undercooled   | 1103-11914               |
| Characteristics of continuous-galvanizing baths.  Gas evolution  | 144-148B                 | Fe-Co alloys.  Grain size, Deformation effects   | 2941-2949A               |
| Reduction of iron-silicon-oxysulfide by CO gas injection.  Gas metal arc welding   | 873-875B                 | Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy<br>by repeated thermomechanical treatment to produce a<br>heavily deformable material.  | 2221-2228A               |
| Modeling macro- and microstructures of gas-metal-arc welded<br>HSLA-100 steel.<br>Droplet formation, detachment, and impingement on the mol-   | 483-493B                 | Mathematical modeling of the hot-deformation behavior of<br>superalloy IN718.  | 2701-2712A               |
| ten pool in gas metal arc welding.  Gas turbine engines, Materials selection   | 791-801B                 | Grain size, Welding effects Fusion zone microstructure and porosity in electron beam welds of an α+β titanium alloy.   | 789-798A                 |
| Thermodynamic activities in the alloys of the Ti-Al-Nb system.  Gears, Metal working   | 1315-1326A               | Microstructural evolution of 6063 aluminum during friction-stir welding.   | 2429-2437A               |
| Deformation of metastable austenite and resulting properties during the ausform-finishing of 1% carburized AISI 9310 steel gears.  | 183-193A                 | Grain structure, Processing effects  A three-dimensional cellular automation-finite element model for the prediction of solidification grain structures.   | 3153-3165A               |
| Germanium, Crystal growth Dendrite growth processes of silicon and germanium from highly undercooled melts. Discussion of "Dendrite growth processes of silicon and ger- manium from highly undercooled melts" and authors' reply. | 1333-1339A<br>3011-3016A | Graphite, Composite materials  Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. I. Theoretical analysis. | 361-367B                 |
| Glissile dislocations, Composition effects Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-   |                          | Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifugal casting. II. Experiments.  | 369-373B                 |
| tions.  Gold, Binary systems The neodymium-gold phase diagram.   | 123-132A<br>1169-1176A   | Gray iron, Crystal growth  Mathematical modeling of microstructural development in hypoeutectic cast iron.   | 2147-2158A               |
| Gold, Diffusion<br>Influence of annealing on depth distributions and microstruc-<br>ture of ion-implanted Ti6Al4V.   | 2121-2127A               | Gray iron, Heat treatment Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation.   | 1211-1221A               |
| Gold base alloys, Phase transformations Ordering transformation and spinodal decomposition in Au-Ni alloys.  | 707-716A                 | Hall Heroult process  The influence of the initial shape and position of an anode and the curvature of the aluminum on the current distribution in prebaked aluminum cells.                      | 341-348B                 |
| Grain boundaries Texture evolution and the role of grain boundaries in skeletal formation during coarsening in solid-liquid mixtures. Fifty-year study of grain-boundary relaxation.   | 1955-1969A<br>2267-2295A | Hardness  Correlation of microstructure and microfracture mechanism of five work rolls.  Effect of matrix hardness on the creep properties of a  | 234-243A                 |
| Grain boundary migration, Impurity effects  Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel.   | 2089-2096A               | 12CrMoVNb steel.  Hardness, Composition effects  | 2331-2339A               |
| Grain boundary migration, Welding effects Direction of grain-boundary migration in the weld metal of an austenitic stainless steel.  | 621-626A                 | A dual composite of WC-Co.  Hardness, Heating effects Surface hardening of a gray cast iron used for a diesel engine   | 3231-3238A               |
| Grain boundary sliding Observations of grain-boundary sliding and surface topogra-   |                          | cylinder block using high-energy electron beam irradiation.  Effect of surface carburization on dynamic deformation and fracture of tungsten heavy alloys.                                       | 1211-1221A<br>2027-2035A |
| phy in an 8090 Al alloy after uniaxial and biaxial superplastic<br>deformation.<br>An intergranular creep crack growth model based on grain<br>boundary sliding.   | 53-64A<br>1039-1045A     | Hardness, Microstructural effects Deformation of metastable austenite and resulting properties during the ausform-finishing of 1% carburized AISI 9310   |                          |
| Fifty-year study of grain-boundary relaxation.   | 2267-2295A               | steel gears.   | 183-193A                 |

| Hardness, Processing effects Composition, microstructure, hardness, and wear properties of   |  | High speed tool steels, Mechanical properties  Correlation of microstructure and microfracture mechanism of  |  |
|--|--|--|--|
| high-speed steel rolls.  | 399-409A   | five work rolls.   | 234-243A   |
| Processing copper and silver matrix composites by electroless plating and hot pressing.  | 1119-1136A   | Composition, microstructure, hardness, and wear properties of<br>high-speed steel rolls.   | 399-409A   |
| Hot explosive compaction of Mo-Ti alloys.  | 2483-2489A   |  | 000 100/1  |
| Influence of cold rolling and strain rate on plastic response of   | 0044 00404   | High strength low alloy steels, Mechanical properties  The role of heat treating on the sour gas resistance of an X-80   |  |
| powder metallurgy and chemical vapor deposition rhenium.<br>Improvement of hardness and resistance of oxidation by elec-   | 2641-2648A   | steel for oil and gas transport.   | 2419-2428A   |
| tric arc alloying on ferritic steels.  | 3263-3265A   | The influence of tensile stress states on the failure of HY-100<br>steel.  | 2835-2842A   |
| Hardness, Radiation effects  |  | The influence of rolling practice on notch toughness and tex-  |  |
| Effect of flux addition on the microstructure and hardness of  |  | ture development in high-strength linepipe.  | 3045-3054A   |
| TiC-reinforced ferrous surface composite layers fabricated by<br>high-energy electron beam irradiation.  | 3131-3141A   | High strength low alloy steels, Powder technology  |  |
| Hardness, Welding effects  |  | The mechanism of porous column formation during spray form-<br>ing.  | 1679-1682A   |
| Microstructural zones in the primary solidification structure of   |  | High strength low alloy steels, Welding  |  |
| weldment of 9Cr-1Mo steel.  Microstructural evolution of 6063 aluminum during friction-stir  | 161-174A   | Modeling macro- and microstructures of gas-metal-arc welded  |  |
| welding.   | 2429-2437A   | HSLA-100 steel.  Effect of different stages of tensile deformation on micromag-  | 483-493B   |
| Heat affected zone, Mechanical properties  |  | netic parameters in high-strength, low-alloy steel.  | 2067-2072A   |
| Effect of TiN particles and microstructure on fracture tough-  | 0000 00004   | High strength steels, Extrusion  |  |
| ness in simulated heat-affected zones of a structural steel.  Quantitative evaluation of softened regions in weld heat-  | 2089-2096A   | Workability of commercial-purity titanium and 4340 steel during  |  |
| affected zones of 6061-T6 aluminum alloy-characterizing of   |  | equal channel angular extrusion at cold-working tempera-<br>tures.   | 1425-1435A   |
| the laser beam welding process.  | 2115-2120A   | High strength steels, Heat treatment   |  |
| Heat affected zone, Microstructure   |  | The effect of ion implanting on hydrogen entry into metals.  | 1535-1540A   |
| Modeling macro- and microstructures of gas-metal-arc welded<br>HSLA-100 steel.   | 483-493B   | High strength steels, Mechanical properties  |  |
| Direction of grain-boundary migration in the weld metal of an  |  | The effects of grain-refining precipitates on the development of   |  |
| austenitic stainless steel.  Fusion zone microstructure and porosity in electron beam  | 621-626A   | toughness in 4340 steel.  Mixed-mode hydrogen-assisted cracking of high-strength steel:  | 93-114A  |
| welds of an $\alpha+\beta$ titanium alloy.   | 789-798A   | the role of cyclic load history.   | 1882-1885A   |
| A process model for the heat-affected zone microstructure evo-   | 2667-2677A   | High strength steels, Metal working  |  |
| lution in Al-Zn-Mg weldments.  A process model for the heat-affected zone microstructure evo-  | 2007-2017A   | A general approach for predicting the drawing fracture load  | 0040 00074   |
| lution in duplex stainless steel weldments. I. The model.  | 2915-2929A   | and limit drawing ratio of an axisymmetric drawing process.  | 2619-2627A   |
| Heat affected zone, Phase transformations  |  | High strength steels, Phase transformations  An analytical electron microscopy study of paraequilibrium  |  |
| Microstructural zones in the primary solidification structure of<br>weldment of 9Cr-1Mo steel.   | 161-174A   | cementite precipitation in ultra-high-strength steel.  | 501-512A   |
| Heat of formation  | 101-17-47  | High temperature   |  |
| A thermodynamic interpretation of the size-ratio limits for  |  | Indentation power-law creep of high-purity indium.   | 601-610A   |
| Laves phase formation.   | 1449-1452A   | A fine γ+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature  |  |
| the start of out the co  |  |  |  |
| Heat of mixing   |  | tensile properties.  | 1495-1501A   |
| A self-consistent model for predicting interaction parameters in   | 3099-3102A   | Hot dip galvanizing  | 1495-1501A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  | 3099-3102A   | Hot dip galvanizing Studies of the morphology of the Al-rich interfacial layer formed  |  |
| A self-consistent model for predicting interaction parameters in   | 3099-3102A<br>2753-2756A   | Hot dip galvanizing  | 681-695A<br>3031-3044A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects  |  | Hot dip galvanizing Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.   | 681-695A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting.  |  | Hot dip galvanizing Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. Distribution of aluminum in hot-dip galvanized coatings.  | 681-695A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer  Mathematical modeling of copper and brass upcasting.  A mathematical model of the heat and fluid flows in direct-chill   | 2753-2756A<br>75-98B   | Hot dip galvanizing     Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.     Distribution of aluminum in hot-dip galvanized coatings.     Hot extrusion, Microstructural effects     Hot working of Ti-6Al-4V via equal channel angular extrusion.     Hot forging   | 681-695A<br>3031-3044A<br>2473-2481A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of  | 2753-2756A<br>75-98B<br>119-133B   | Hot dip galvanizing     Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.     Distribution of aluminum in hot-dip galvanized coatings.     Hot extrusion, Microstructural effects     Hot working of Ti-6Al-4V via equal channel angular extrusion.     Hot forging     Cavitation and failure during hot forging of Ti-6Al-4V.   | 681-695A<br>3031-3044A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles.   | 2753-2756A<br>75-98B   | Hot dip galvanizing     Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.     Distribution of aluminum in hot-dip galvanized coatings.     Hot extrusion, Microstructural effects     Hot working of Ti-6Al-4V via equal channel angular extrusion.     Hot forging     Cavitation and failure during hot forging of Ti-6Al-4V.     Hot isostatic pressing  | 681-695A<br>3031-3044A<br>2473-2481A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of  | 2753-2756A<br>75-98B<br>119-133B   | Hot dip galvanizing     Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.     Distribution of aluminum in hot-dip galvanized coatings.     Hot extrusion, Microstructural effects     Hot working of Ti-6Al-4V via equal channel angular extrusion.     Hot forging     Cavitation and failure during hot forging of Ti-6Al-4V.   | 681-695A<br>3031-3044A<br>2473-2481A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles.  The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded   | 2753-2756A<br>75-98B<br>119-133B<br>323-330B<br>473-482B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  | 2753-2756A<br>75-98B<br>119-133B<br>-323-330B  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles.  The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys.   | 2753-2756A<br>75-98B<br>119-133B<br>323-330B<br>473-482B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-  | 2753-2756A  75-98B  119-133B  323-330B  473-482B  483-493B  505-513B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing.  Casting-chill interface heat transfer during solidification of an  | 2753-2756A<br>75-98B<br>119-133B<br>-323-330B<br>473-482B<br>483-493B<br>505-513B<br>527-539B  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy.  | 2753-2756A  75-98B  119-133B  323-330B  473-482B  483-493B  505-513B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition  | 2753-2756A<br>75-98B<br>119-133B<br>-323-330B<br>473-482B<br>483-493B<br>505-513B<br>527-539B  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing.  Casting-chill interface heat transfer during solidification of an aluminum alloy.  Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts.  Investigation of transient fluid flow and heat transfer in a con-   | 2753-2756A  75-98B  119-133B  -323-330B  473-482B  483-493B  505-513B  527-539B  773-778B  | Hot dip galvanizing Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. Distribution of aluminum in hot-dip galvanized coatings.  Hot extrusion, Microstructural effects Hot working of Ti-6Al-4V via equal channel angular extrusion.  Hot forging Cavitation and failure during hot forging of Ti-6Al-4V.  Hot isostatic pressing Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.  Hot pressing Processing copper and silver matrix composites by electroless plating and hot pressing.  Hot spraying On the mechanism of mushy layer formation during droplet-based processing. Characterization of the W <sub>2</sub> C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with   | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angu-   | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet. Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  | 2753-2756A<br>75-98B<br>119-133B<br>-323-330B<br>473-482B<br>483-493B<br>505-513B<br>527-539B<br>773-778B<br>901-908B<br>979-985B                            | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.         Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects</li> <li>Effect of initial microstructure on plastic flow and dynamic glob-</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.</li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.</li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.</li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.</li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.</li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.</li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.</li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.     </li> <li>Hydrogen, Sorption</li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A   |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at  | 2753-2756A  75-98B  119-133B  323-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A                                     | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.     </li> <li>Hydrogen, Sorption         The effect of ion implanting on hydrogen entry into metals.     </li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A                                     |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-car-   | 2753-2756A  75-98B  119-133B  2323-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A                                    | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.</li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.         Hot forging             Cavitation and failure during hot forging of Ti-6Al-4V.             Hot isostatic pressing             Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.             Hot pressing             Processing copper and silver matrix composites by electroless plating and hot pressing.             Phot spraying             On the mechanism of mushy layer formation during droplet-based processing.             Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.             Hot working             Mathematical modeling of the hot-deformation behavior of superalloy IN718.             Hot working, Microstructural effects             Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.             Hydrogen, Sorption             The effect of ion implanting on hydrogen entry into metals.             Hydrogen embrittlement             The effect of pre-dissolved hydrogen on cleavage and grain</li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A                       |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels.   | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B                          | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructure of platic flow and dynamic globularization during hot working of Ti-6Al-4V.</li> <li>Hydrogen, Sorption         The effect of ion implanting on hydrogen entry into metals.     </li> <li>Hydrogen embrittlement         The effect of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr- </li> </ul>   | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A                       |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer  Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles.  The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys.  On the mechanism of mushy layer formation during droplet-based processing.  Casting-chill interface heat transfer during solidification of an aluminum alloy.  Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts.  Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments.  Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical)  The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties  Microstructure-property relations in as-extruded ultrahigh-carbon steels.  Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness.   | 2753-2756A  75-98B  119-133B  2323-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B  1559-1568A  2885-2893A | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.     </li> <li>Hydrogen, Sorption         The effect of ion implanting on hydrogen entry into metals.     </li> <li>Hydrogen embrittlement</li> <li>The effect of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.     </li> <li>The equilibrium concentration of hydrogen atoms ahead of a</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A                       |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures.  | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B  1559-1568A  2885-2893A  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.             Instribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.     </li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.     </li> <li>Hydrogen, Sorption         The effects of pre-dissolved hydrogen entry into metals.     </li> <li>Hydrogen embrittlement         The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.     </li> <li>The equilibrium concentration of hydrogen atoms ahead of a mixed model-model III crack tip in single crystal iron.</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A                       |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer  Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fatigue crack propagation.  | 2753-2756A  75-98B  119-133B  2323-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B  1559-1568A  2885-2893A | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.     </li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.     </li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.     </li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.     </li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.     </li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.     </li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.     </li> <li>Hydrogen, Sorption         The effect of ion implanting on hydrogen entry into metals.     </li> <li>Hydrogen embrittlement</li> <li>The effect of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.     </li> <li>The equilibrium concentration of hydrogen atoms ahead of a</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A<br>65-79A<br>155-159A |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures.  | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B  1559-1568A  2885-2893A  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.</li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.</li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.</li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.</li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.</li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.</li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.</li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.</li> <li>Hydrogen, Sorption         The effects of pre-dissolved hydrogen entry into metals.</li> <li>Hydrogen embrittlement         The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.         The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron.         Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water.</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A<br>65-79A<br>155-159A |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets. Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting. Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness.   | 2753-2756A  75-98B  119-133B  223-330B  473-482B  483-493B  505-513B  527-539B  773-778B  901-908B  979-985B  1391-1402A  993-1001B  1559-1568A  2885-2893A  | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.</li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.</li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.</li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.</li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.</li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.</li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.</li> <li>Hydrogen, Sorption         The effect of ion implanting on hydrogen entry into metals.</li> <li>Hydrogen embrittlement         The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.         The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron.         Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water.         Mixed-mode hydrogen-assisted cracking of high-strength steel:</li> </ul> | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A<br>65-79A<br>155-159A |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.  Heat of transformation, Processing effects Transformation behavior of sintered porous NiTi alloys.  Heat transfer Mathematical modeling of copper and brass upcasting. A mathematical model of the heat and fluid flows in direct-chill casting of aluminum sheet ingots and billets.  Two-dimensional dynamic simulation of the thermal state of ladles. The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  Modeling macro- and microstructures of gas-metal-arc welded HSLA-100 steel. Least-squares adjustment of mathematical model of heat and mass transfer processes during solidification of binary alloys. On the mechanism of mushy layer formation during droplet-based processing. Casting-chill interface heat transfer during solidification of an aluminum alloy. Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts. Investigation of transient fluid flow and heat transfer in a continuous casting tundish by numerical analysis verified with nonisothermal water model experiments. Finite-element modeling of nonisothermal equal-channel angular extrusion.  Hematite, Reactions (chemical) The precipitation of hematite from ferric chloride media at atmospheric pressure.  High carbon steels, Mechanical properties Microstructure-property relations in as-extruded ultrahigh-carbon steels. Fracture and fatigue behavior of sintered steel at elevated temperatures. I. Fracture toughness. Fracture and fatigue behavior of sintered steel at elevated temperatures. II. Fraitgue crack propagation.  High cycle fatigue, Microstructural effects Microstructural effects on high-cycle fatigue-crack initiation in | 2753-2756A  75-98B  119-133B 323-330B 473-482B 483-493B 505-513B 527-539B 773-778B 901-908B 979-985B 1391-1402A 993-1001B 1559-1568A 2885-2893A 2895-2904A   | <ul> <li>Hot dip galvanizing         Studies of the morphology of the Al-rich interfacial layer formed during the hot dip galvanizing of steel sheet.         Distribution of aluminum in hot-dip galvanized coatings.</li> <li>Hot extrusion, Microstructural effects         Hot working of Ti-6Al-4V via equal channel angular extrusion.</li> <li>Hot forging         Cavitation and failure during hot forging of Ti-6Al-4V.</li> <li>Hot isostatic pressing         Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.</li> <li>Hot pressing         Processing copper and silver matrix composites by electroless plating and hot pressing.</li> <li>Hot spraying         On the mechanism of mushy layer formation during droplet-based processing.         Characterization of the W<sub>2</sub>C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.</li> <li>Hot working         Mathematical modeling of the hot-deformation behavior of superalloy IN718.</li> <li>Hot working, Microstructural effects         Effect of initial microstructure on plastic flow and dynamic globularization during hot working of Ti-6Al-4V.</li> <li>Hydrogen, Sorption         The effects of pre-dissolved hydrogen entry into metals.</li> <li>Hydrogen embrittlement         The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-4Mo-4Zr. I.         The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron.         Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-temperature water.</li> </ul>  | 681-695A<br>3031-3044A<br>2473-2481A<br>1411-1424A<br>751-761A<br>1119-1136A<br>527-539B<br>1913-1921A<br>2701-2712A<br>3219-3229A<br>1535-1540A<br>65-79A<br>155-159A |

| Hydrogen embrittlement, Deformation effects Improvement of the resistance to stress corrosion cracking in   | 1007.155.1               | Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln.   | 969-977B                                |
|---|--------------------------|--|---|
| austenitic stainless steels by cyclic prestraining.   | 1327-1331A               | Inserts, Coating   |   |
| Hydrogen embrittlement, Heating effects The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.                      | 2419-2428A               | Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties. | 2931-2939A                              |
| Hydrometallurgy Strategies for optimal operation of the tellurium electrowinning  |                          | Interface reactions  |   |
| process.  Photocatalytic reduction of selenate and selenite solutions   | 5-13B                    | Thermodynamic modeling of the palladium-lead-tin system.<br>Erratum: Investigation of inclusion re-entrainment from the  | 5-18A                                   |
| using TiO <sub>2</sub> powders.   | 15-20B                   | steel-slag interface. Interface characterization of duplex metal-coated SiC fiber-   | 149B                                    |
| A solution chemistry approach to the study of rare earth ele-<br>ment precipitation by oxalic acid.   | 189-195B                 | reinforced Ti-15-3 matrix composites.  | 653-666A                                |
| Preparation of ammonium chloroplatinate by a precipitation<br>stripping of Pt(IV)-loaded Alamine 336 or TBP.  | 197-203B                 | Interaction between nonstoichiometric titanium carbide and Fe-<br>C alloys.  | 857-863B                                |
| The precipitation of hematite from ferric chloride media at atmospheric pressure.   | 993-1001B                | Degradation mechanism of SiC/super $\alpha_2$ composite due to interfacial reaction.   | 2713-2720A                              |
| Hysteresis  | 000 10010                | Interface reactions, Field effects   |   |
| Strain dependence of pseudoelastic hysteresis of NiTi.  Ilmenite, Beneficiation   | 1275-1282A               | Electrochemical interfacial phenomena under microgravity. II.<br>Numerical analysis of the rate of ionic mass transfer accompanying anodic copper dissolution.                             | 779-790B                                |
| High-temperature phase relations and thermodynamics in the<br>iron-titanium-oxygen system.  | 695-705B                 | Interface reactions, Heating effects   |   |
| Evaluation of a process that uses phosphate additions to<br>upgrade titania slag.   | 823-826B                 | Diffusional reactions during processing of Timetal 21S/<br>Al <sub>2</sub> O <sub>3</sub> composites.  | 1437-1447A                              |
| Ilmenite, Reduction (chemical) Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ).                                       | 1075-1081B               | Intergranular fracture  The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-   |   |
| Image analysis Application of image processing for simulation of mechanical   |                          | 4Mo-4Zr. I.  | 65-79A                                  |
| response of multi-length scale microstructures of engineering alloys.   | 2369-2381A               | An intergranular creep crack growth model based on grain<br>boundary sliding.  | 1039-1045A                              |
| Impact, Coating effects Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.                   | 961-968A                 | Intergranular fracture, Alloying effects Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys with nickel additions.                                       | 2629-2639A                              |
| Impact strength, Deformation effects  |                          | Intergranular fracture, Deformation effects  |   |
| The influence of rolling practice on notch toughness and tex-<br>ture development in high-strength linepipe.  | 3045-3054A               | Stress-corrosion cracking susceptibility of the superplastically<br>formed 5083 aluminum alloy in 3.5% NaCl solution.  | 3191-3199A                              |
| Impact strength, Microstructural effects Infuence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels. | 1193-1202A               | Intergranular fracture, Welding effects  Hot cracking susceptibility of fillers 52 and 82 in alloy 690 welding.  | 417-426A                                |
| Inclusions Erratum: Investigation of inclusion re-entrainment from the steel-slag interface.  | 149B                     | Interlayers, Materials selection  Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.                                      | 799-806A                                |
| Inclusions, Processing effects  |                          | Intermetallic phases   | , |
| Analysis of size distributions of primary oxide inclusions in Fe-<br>10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.  | 259-270B                 | $\beta \rightarrow \alpha''$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. Thermodynamics of Ca-Ga alloys.   | 231-233A<br>459-464B                    |
| Indentation, Temperature effects Indentation power-law creep of high-purity indium.   | 601-610A                 | The neodymium-gold phase diagram.  | 1169-1176                               |
| Indium, Mechanical properties   |                          | Thermodynamic activities in the alloys of the Ti-Al-Nb system.<br>Compositional characterization of Cu-rich phase particles  | 1315-1326A                              |
| Indentation power-law creep of high-purity indium.  Indium, Ternary systems   | 601-610A                 | present in as-cast Al-Cu-Mg(-Li) alloys containing Ag.  Orientation relationship between β-Mn and L2 <sub>1</sub> matrix in a  | 1693-1704A                              |
| Investigation of the phase equilibria in the Sn-Bi-In alloy system.   | 1503-1515A               | Cu <sub>2</sub> MnAl alloy.  Intermetallic phases, Composition effects   | 1705-1716A                              |
| Induction coils, Design An induction heating process with coil design and solutions   | 1303-1313A               | The effect of Mg on the microstructure and mechanical behav-<br>ior of Al-Si-Mg casting alloys.  | 2611-2618A                              |
| avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3% Mg alloy for thixoforming.   | 2967-2977A               | Intermetallic phases, Crystal growth Precipitation of an intermetallic phase with Pt <sub>2</sub> Mo-type struc-   |   |
| Induction heating An induction heating process with coil design and solutions   |                          | ture in alloy 625.  Determination of the critical nucleus size of precipitates using   | 41-52A                                  |
| avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3%  |                          | the macroscopic composition gradient method.   | 2783-2789A                              |
| Mg alloy for thixoforming.  | 2967-2977A               | Intermetallic phases, Diffusion effects  |   |
| Infiltration Fatigue and fracture of porous steels and Cu-infiltrated porous  |                          | Diffusional reactions during processing of Timetal 21S/<br>Al <sub>2</sub> O <sub>3</sub> composites.  | 1437-1447A                              |
| steels. Infiltration of fibrous preforms by a pure metal. V. Influence of   | 325-334A                 | Intermetallic phases, Heating effects The nitriding behavior of Ti-Al alloys at 1000°C.  | 19-29A                                  |
| preform compressibility.<br>Reactive infiltration of silicon melt through microporous amor-   | 471-482A                 | Intermetallic phases, Synthesis  | 13-237                                  |
| phous carbon preforms.  Modeling of composite growth in the directed aluminum melt  | 933-944B                 | Shock-induced reaction synthesis of isomorphous (Cu-Ni) and<br>immiscible (Cu-Nb) compounds.   | 1367-1379A                              |
| nitridation process.  Fabrication and characteristics of AA6061/ $Si_{0}N_{4n}$ composite by the pressureless infiltration technique.                         | 2951-2958A<br>2999-3007A | Intermetallics, Composite materials Wear behavior of in situ Al-based composites containing  |   |
| Ingot casting   |                          | TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.<br>Finite-element method simulation of effects of microstructure,                                    | 243-248A                                |
| Simulation of convection and macrosegregation in a large steel ingot.   | 1357-1366A               | stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  | 3239-3251A                              |
| Ingots, Crystal growth Simulation of convection and macrosegregation in a large steel ingot.  | 1357-1366A               | Intermetallics, Mechanical properties Environmental embrittlement caused by hydrogen for interme-  |   |
| Injection   |                          | tallic compounds: preliminary model of ductility reduction.  Intermetallics, Phase transformations   | 3089-3097A                              |
| Discussion of "Mixing time and fluid flow phenomena in liquids<br>of varying kinematic viscosities agitated by bottom gas injec-                              |                          | Strain dependence of pseudoelastic hysteresis of NiTi.   | 1275-1282A                              |
| tion" and authors' reply.  Reduction of iron-silicon-oxysulfide by CO gas injection.  | 349-352B<br>873-875B     | Transformation behavior of sintered porous NiTi alloys.<br>Superheating behavior of NiAl: Authors' reply.  | 2753-2756A<br>3265A                     |

### Internal oxidation, Environmental effects

| monar extension, and monar extension  |                        |   |  |
|---|------------------------|---|--|
| Internal oxidation, Environmental effects Role of gaseous environment and secondary precipitation in microstructural degradation of Cr-Mo steel weldments at high   |                        | Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.  Two-dimensional dynamic simulation of the thermal state of  | 279-286B                                   |
| temperatures.   | 2103-2113A             | ladles.  Discussion of "Mixing time and fluid flow phenomena in liquids   | 323-330B                                   |
| Interstitial free steels, Coating Distribution of aluminum in hot-dip galvanized coatings.  | 3031-3044A             | of varying kinematic viscosities agitated by bottom gas injec-<br>tion" and authors' reply.   | 349-352B                                   |
| Interstitial free steels, Metal working A general approach for predicting the drawing fracture load   |                        | Spout eyes formed by an emerging gas plume at the surface of a slag-covered metal melt.   | 411-418B                                   |
| and limit drawing ratio of an axisymmetric drawing process.  Interstitial solutions, Heating effects  | 2619-2627A             | Thermodynamics of iron oxide in Fe <sub>x</sub> O-dilute<br>CaO+Al <sub>2</sub> O <sub>3</sub> +MgO+Fe <sub>x</sub> O slags at 1873K.<br>Thermodynamics of surfaces and adsorption in the Fe-S, Fe-   | 419-427B                                   |
| Application of the cluster variation method to ordering in an interstitial solid soution: the γ-Fe[N]/γ-Fe₄N <sub>1-x</sub> equilibrium.  | 1945-1953A             | N, and Fe-S-N systems at 1823K.  Model prediction of thermodynamic properties of Co-Fe-Ni-S   | 429-433B                                   |
| Investment casting A three-dimensional cellular automation-finite element model   |                        | mattes. The rate of reaction of solid iron with oxidized "FeO"-CaO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> slags at 1360°C—the chemical diffusivity of iron  | 443-450B                                   |
| for the prediction of solidification grain structures.  Ion implantation  | 3153-3165A             | oxide.  Discussion of "Decay of fluid motion in a filling ladle after tap-  | 465-472B                                   |
| The effect of ion implanting on hydrogen entry into metals.  Influence of annealing on depth distributions and microstruc-  | 1535-1540A             | ping" and author's reply.  Height of the spout of a gas plume discharging from a metal  | 541-543B                                   |
| ture of ion-implanted Ti6Al4V.  | 2121-2127A             | melt. Erratum:"Model prediction of thermodynamic properties of Co-  | 655-660B                                   |
| Iridium base alloys, Mechanical properties Properties of the Ir <sub>88</sub> Nb <sub>15</sub> two-phase refractory superalloys with nickel additions.  | 2629-2639A             | Fe-Ni-S mattes".  A study of the sulfide capacities of iron-oxide containing slags.  Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.  Solubility of carbon in CaO-B <sub>2</sub> O <sub>3</sub> and BaO-B <sub>2</sub> O <sub>3</sub> slags. | 831B<br>909-920B<br>921-925B<br>1045-1052B |
| Iron, Alloying additive<br>The effect of Sr and Fe additions on the microstructure and<br>mechanical properties of a direct squeeze cast Al-7Si-0.3Mg<br>alloy.   | 1341-1356A             | Iron compounds, Mechanical properties Environmental embrittlement caused by hydrogen for interme-   |  |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.   | 1643-1650A             | tallic compounds: preliminary model of ductility reduction.  Iron ores, Beneficiation   | 3089-3097A                                 |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.   | 1651-1655A             | Simulation of primary-slag melting behavior in the cohesive<br>zone of a blast furnace, considering the effect of   |  |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.   | 1657-1662A             | Al <sub>2</sub> O <sub>3</sub> , Fe <sub>1</sub> O, and basicity in the sinter ore.  Optimizing the operation of straight-grate iron-ore pellet indura-   | 671-683B                                   |
| Iron, Binary systems Partial Fe-Ti alloy phase diagrams at high pressure.   | 3009-3011A             | tion systems using process models.  Iron ores, Reactions (chemical)   | 803-813B                                   |
| Iron, Coating Synthesis and characterizatiion of Ti-Si-C-N films.   | 2439-2447A             | Rate of reduction of Fe <sub>1</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas.  Iron oxides, Reactions (chemical)   | 827-829B                                   |
| Iron, Diffusion  A new analysis for the determination of ternary interdiffusion   |                        | Rate of reduction of Fe <sub>1</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas. A study of the sulfide capacities of iron-oxide containing slags.  | 827-829B<br>909-920B                       |
| coefficient from a single diffusion couple.  Multicomponent diffusion simulation based on finite elements.  | 535-543A<br>2575-2582A | Iron oxides, Reduction (chemical)  A study of the reduction rate of FeO in slag by solid carbon. Reduction of iron-silicon-oxysulfide by CO gas injection.  | 215-221B<br>873-875B                       |
| Iron, Extraction A study of the reduction rate of FeO in slag by solid carbon. Selective removal of iron contaminations from zinc-chloride  | 215-221B<br>607-611B   | Experimental evidence for electrochemical nature of the reac-<br>tion between iron oxide in calcia-silica-alumina slag and car-<br>bon in liquid iron.  | 877-889B                                   |
| melts by cementation with zinc. Rate of reduction of Fe <sub>t</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas. Thermodynamics and phase equilibria involving the spinel                       | 827-829B               | Ironmaking Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln.   | 969-977B                                   |
| solid solution Fe <sub>x</sub> Mg <sub>1-x</sub> Cr <sub>2</sub> O <sub>4</sub> .  Reduction of iron-silicon-oxysulfide by CO gas injection.  Experimental evidence for electrochemical nature of the reac- | 865-871B<br>873-875B   | Thermodynamics of nucleation and supersaturation for the aluminum-deoxidation reaction in liquid iron.  | 1065-1074B                                 |
| tion between iron oxide in calcia-silica-alumina slag and car-<br>bon in liquid iron.  Iron, Mechanical properties  | 877-889B               | Isothermal annealing A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.   | 535-543A                                   |
| The equilibrium concentration of hydrogen atoms ahead of a mixed mode I-mode III crack tip in single crystal iron.  Iron, Powder technology   | 155-159A               | Isothermal treatment Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.  | 1177-1184A                                 |
| Application of percolation theory in predicting shape distortion during liquid-phase sintering.   | 2209-2220A             | Joints, Mechanical properties Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb.   | 2723-2726A                                 |
| Iron, Reactions (chemical) Thermodynamics of TiO <sub>x</sub> in blast furnace-type slags. Thermodynamics of iron oxide in Fe <sub>x</sub> O-dilute   | 29-43B                 | Ladle metallurgy Spout eyes formed by an emerging gas plume at the surface of   |  |
| CaO+Al <sub>2</sub> O <sub>3</sub> +MgO+Fe <sub>x</sub> O slags at 1873K.  Thermodynamics of surfaces and adsorption in the Fe-S, Fe-   | 419-427B               | a slag-covered metal melt.  Height of the spout of a gas plume discharging from a metal   | 411-418B                                   |
| N, and Fe-S-N systems at 1823K.  Model prediction of thermodynamic properties of Co-Fe-Ni-S   | 429-433B               | melt.  Ladles, Thermal properties   | 655-660B                                   |
| mattes.  The rate of reaction of solid iron with oxidized "FeO"-CaO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> slags at 1360°C—the chemical diffusivity of iron                                       | 443-450B               | Two-dimensional dynamic simulation of the thermal state of<br>ladles.   | 323-330B                                   |
| oxide. Erratum:"Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".   | 465-472B<br>831B       | Lamellar structure  Hot working of Ti-6Al-4V via equal channel angular extrusion.  Effect of initial microstructure on plastic flow and dynamic glob-   | 2473-2481A                                 |
| Iron, Recovering  The precipitation of hematite from ferric chloride media at atmospheric pressure.   | 993-1001B              | ularization during hot working of Ti-6Al-4V.  Lamellar structure, Deformation effects  Atom probe and transmission electron microscopy investiga-   | 3219-3229A                                 |
| Iron, Ternary systems   |                        | tions of heavily drawn pearlitic steel wire.  Laminates, Mechanical properties  | 717-727A                                   |
| Investigation of the surface of the liquidus of the Fe-Ni-S sys-<br>tem at X <sub>s</sub> <0.51.  Thermodynamic assessment of the Al-Fe-Si system.  | 715-722B<br>1081-1095A | Effect of in situ material properties on fatigue damage modes in titanium matrix composites.  | 255-266A                                   |
| The influence of temperature gradients on Ostwald ripening.  Evaluation of interaction parameters in metallic solutions by  | 2341-2348A             | Fatigue crack growth in Ti-matrix composites with spatially var-<br>ied interfaces.   |  |
| the isoactivity method.   | 3103-3110A             | Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites.   | 287-299A                                   |
| Iron and steel making Activity coefficient of nickel oxide in BaO-based slags.  | 143-144B               | Fatigue-crack propagation behavior of ductile/brittle laminated composites.   | 633-642A                                   |
|   |                        |   |  |

| 1999  |            | Luders lines, Deformation  | on enects                |   |
|---|------------|--|--------------------------|---|
| Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils.   | 2959-2965A | Discussion of "Mixing time and fluid flow phenomena in liquids   |                          |   |
| Laser beam melting The solidification characteristics of laser surface-remelted Fe-   |            | of varying kinematic viscosities agitated by bottom gas injec-<br>tion" and authors' reply.  | 349-352B                 |   |
| 12Cr-nC alloys.   | 1817-1826A | Discussion of "Decay of fluid motion in a filling ladle after tap-<br>ping" and author's reply.  | 541-543B                 |   |
| Laser beam welding  Quantitative evaluation of softened regions in weld heat-   |            | Toward a probe for velocity measurement in molten metals at<br>high temperatures.  | 623-630B                 |   |
| affected zones of 6061-T6 aluminum alloy—characterizing of the laser beam welding process.  | 2115-2120A | Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath.  Applying of the dynamic processor of liquid motel filtration.   | 631-637B                 |   |
| Laser processing A study on laser sintering of Fe-Cu powder compacts.   | 2229-2235A | Analyses of the dynamic processes of liquid metal filtration.  The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres.  | 891-900B<br>1027-1032B   |   |
| Lattice parameters  |            | Liquid metals, Quality control   |                          |   |
| Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy.                                      | 697-705A   | Study of electromagnetic separation of nonmetallic inclusions from aluminum melt.  | 2979-2988A               |   |
| Lattice parameters, Heating effects  Application of the cluster variation method to ordering in an interstitial solid soution: the "→Fe[N]//-Fe₄N₁-x equilibrium. | 1945-1953A | Liquid metals, Reactions (chemical) Thermodynamics of $TiO_x$ in blast furnace-type slags. Kinetics of simultaneous reactions between liquid iron-carbon   | 29-43B                   |   |
| Laves phase A thermodynamic interpretation of the size-ratio limits for   |            | alloys and slags containing MnO. Thermodynamics of iron oxide in Fe <sub>x</sub> O-dilute  | 279-286B                 |   |
| Laves phase formation.  | 1449-1452A | CaO+Al <sub>2</sub> O <sub>3</sub> +MgO+Fe <sub>x</sub> O slags at 1873K.  Thermodynamics of surfaces and adsorption in the Fe-S, Fe-  | 419-427B                 |   |
| Lead (metal), Binary systems  The influence of temperature gradients on Ostwald ripening.   | 2341-2348A | N, and Fe-S-N systems at 1823K.  A thermodynamic database for copper smelting and convert-   | 429-433B                 |   |
| Lead (metal), Reactions (chemical) Thermodynamic modeling of lead distribution among matte,   |            | ing.  Experimental evidence for electrochemical nature of the reac-  | 661-669B                 |   |
| slag, and liquid copper.  | 1033-1044B | tion between iron oxide in calcia-silica-alumina slag and car-<br>bon in liquid iron.  | 877-889B                 |   |
| Lead (metal), Ternary systems Thermodynamic modeling of the palladium-lead-tin system.  | 5-18A      | Thermodynamic modeling of lead distribution among matte,<br>slag, and liquid copper.   | 1033-1044B               |   |
| Thermodynamic modeling of the nickel-lead-tin system.  Lead (metal), Thermal properties   | 1481-1494A | Triggering steam explosions of single drops of a molten ferro-<br>silicon alloy with a simple encapsulated mechanical impactor.  | 1083-1088B               |   |
| Nonstationary hot wire method with silica-coated probe for<br>measuring thermal conductivities of molten metals.  | 1971-1979A | Liquid metals, Thermal properties  Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals.   | 1971-1979A               |   |
| Lead base alloys, Crystal growth Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field.                                     | 1809-1815A | Liquid phase sintering Anomalous pore morphologies in liquid-phase-sintered Al-Zn  |                          |   |
| Lead base alloys, Directional solidification Cell/dendrite distribution in directionally solidified hypoeutectic  |            | alloys.  Densification during the supersolidus liquid-phase sintering of   | 1682-1685A               |   |
| Pb-Sb alloys.  Macrosegregation caused by thermosolutal convection during   | 2159-2165A | nickel-based prealloyed powder mixtures.<br>Application of percolation theory in predicting shape distortion<br>during liquid-phase sintering.   | 2201-2208A<br>2209-2220A |   |
| directional soldification of Pb-Sb alloys.  Cellular/dendritic array tip morphology during directional solidi-  | 2167-2171A | Densification and shape distortion in liquid-phase sintering.  | 3211-3217A               |   |
| fication of Pb-5.8 wt.% Sb alloy.  Lead base alloys, Microstructure   | 2463-2472A | Liquidus  The effect of MgO on liquidus temperatures of fayalite slags.  | 1017-1026B               | , |
| Texture evolution and the role of grain boundaries in skeletal<br>formation during coarsening in solid-liquid mixtures.   | 1955-1969A | Long range order, Heating effects<br>Stabilization and two-way shape memory effect in Cu-Al-Ni sin-<br>gle crystals.   | 493-499Å                 | / |
| Lead compounds, Ternary systems Experimental study of phase equilibria in the system PbO-   | 04.075     | Low alloy steels, Mechanical properties  | 100 1001                 | 1 |
| $ZnO$ -Si $O_2$ .<br>Levitation casting   | 21-27B     | Correlation of microstructure and microfracture mechanism of five work rolls.  | 234-243A                 | 1 |
| A mathematical model for the dynamic behavior of melts sub-<br>jected to electromagnetic forces. II. Measurement of surface                                       |            | Infuence of martensite content and morphology on tensile and<br>impact properties of high-martensite dual-phase steels.  | 1193-1202A               | , |
| waves and comparison with predictions of the mathematical model.  | 331-339B   | Low alloy steels, Phase transformations Thermodynamic prediction of the eutectoid transformation tem-  | 2325-2330A               |   |
| Levitation melting Superheating behavior of NiAl: Authors' reply.   | 3265A      | peratures of low-alloy steels.  Low carbon steels, Coating   | 2020-200UA               |   |
| Life cycle assessment   |            | Nickel monoaluminide coating on ultralow-carbon steel by<br>reactive sintering.  | 1605-1612A               |   |
| Sustainability: the materials role.   | 157-170B   | Distribution of aluminum in hot-dip galvanized coatings.   | 3031-3044A               |   |
| Lime, Reactions (chemical) A study of the sulfide capacities of iron-oxide containing slags.  | 909-920B   | Low carbon steels, Mechanical properties  Analysis and prevention of cracking phenomenon occurring   | 91 004                   |   |
| Liquid flow Discussion of "Mixing time and fluid flow phenomena in liquids  |            | during cold forging of two AISI 1010 steel pulleys.<br>Erosion of SS41 steel by sand blasting.   | 81-92A<br>941-948A       |   |
| of varying kinematic viscosities agitated by bottom gas injec-<br>tion" and authors' reply.   | 349-352B   | Low carbon steels, Metal working A general approach for predicting the drawing fracture load   |                          |   |
| Toward a probe for velocity measurement in molten metals at<br>high temperatures.   | 623-630B   | and limit drawing ratio of an axisymmetric drawing process.  | 2619-2627A               |   |
| Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath.   | 631-637B   | Low carbon steels, Phase transformations A method for extracting phase change kinetics from dilation for   |                          |   |
| Three-dimensional modeling of the flow and the interface surface in a continuous casting mold model.  | 1095-1105B | multistep transformations: austenitization of a low carbon steel.  | 107-117B                 |   |
| Liquid flow, Field effects  A mathematical model for the dynamic behavior of melts subjected to electromagnetic forces. II. Measurement of surface                |            | Low carbon steels, Steel making  Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of CaO-MgO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -Fe <sub>t</sub> O-MnO-P <sub>2</sub> O <sub>5</sub> . | 435-442B                 |   |
| waves and comparison with predictions of the mathematical model.  | 331-339B   | Low cycle fatigue  Low-cycle fatigue crack initiation and break in strain-life curve   |                          |   |
| Liquid metals, Physical properties Turbulence structure of bottom-blowing bubbling jet in a molten  |            | of AÍ-Li 8090 alloy.   | 887-890A                 |   |
| Wood's metal bath.  A mathematical model for the dynamic behavior of melts sub-   | 61-66B     | Low cycle fatigue, Processing effects<br>Low-cycle dwell-time fatigue in Ti-6242.  | 2383-2389A               |   |
| jected to electromagnetic forces. II. Measurement of surface waves and comparison with predictions of the mathematical model.                                     |            | Luders lines, Deformation effects Deformation bands, the LEDS theory, and their importance in  | 2301-24014               |   |
| model.  | 331-339B   | texture development. II. Theoretical conclusions.  | 2391-2401A               |   |

|   | Magnesium, Alloying additive<br>Surface oxide and the role of magnesium during the sintering<br>of aluminum.   | 457-463A                 | The role of phase transformation in electron-beam welding of<br>TiAl-based alloys.  | 1717-1726A               |
|---|--|--------------------------|---|--------------------------|
|   | The effects of Mg microadditon on the mechanical behavior<br>and fracture mechanism of MAR-M247 superalloy at ele-   | 437-403A                 | Mass transfer Model study on mixing and mass transfer in ferroalloy refining  | 224 220P                 |
|   | vated temperatures.  | 551-561A                 | processes.  Least-squares adjustment of mathematical model of heat and  | 231-239B                 |
|   | Magnesium, Alloying elements Effect of residual magnesium content on thermal fatigue crack-  | 1540 15504               | mass transfer processes during solidification of binary alloys.<br>Effect of heat and mass transfer on the thermal decomposition                  | 505-513B                 |
|   | ing behavior of high-silicon spheroidal graphite cast iron.<br>The effect of Mg on the microstructure and mechanical behav-<br>ior of Al-Si-Mg casting alloys. | 1549-1558A<br>2611-2618A | of SrCO <sub>3</sub> compacts.  Materials conservation  | 901-908B                 |
|   | Magnesium, Extraction  | 2011 2010/1              | Sustainability: The materials role.   | 895-908A                 |
|   | Chlorination and carbochlorination of magnesium oxide.   | 383-391B                 | Mathematical analysis  Turbulence structure of bottom-blowing bubbling jet in a molten  |                          |
|   | Nonisothermal gravimetric investigation on kinetics of reduc-<br>tion of magnesia by aluminum.   | 1003-1008B               | Wood's metal bath.  | 61-66B                   |
|   | Kinetics of oxychlorination of magnesium oxide.  | 1009-1015B               | High-temperature deformation behavior of an Al-8.4Fe-3.6Ce  | 371-376A                 |
|   | Magnesium base alloys, Casting   |                          | dispersion-strengthened material.  A thermally coupled flow formulation with microstructural evo-   | 3/1-3/6A                 |
|   | Relation between cooling rates and microstructures in gravity-<br>die-cast AZ91D disks.  | 723-729B                 | lution for hypoeutectic cast-iron solidification.  Measurement of liquid permeability in the mushy zones of alu-                                  | 731-744B                 |
|   | Magnesium base alloys, Composite materials   |                          | minum-copper alloys.  | 745-750B                 |
|   | Creep behavior of an AZ91 magnesium alloy reinforced with  | 2059-2066A               | Discussion of "Reconsideration of error in the analysis of the<br>wake dislocation problem" and authors' response.                                | 1452-1459A               |
|   | alumina fibers.  | 2039-2000A               | Mechanism of surface modification of the Ti-6Al-4V alloy using  |                          |
|   | Magnesium oxide, Impurities Dispersion of fine primary inclusions of MgO and   |                          | a gas tungsten arc heat source.  Theoretical calculation of nucleation temperature and the  | 1597-1603A               |
|   | ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.   | 1053-1063B               | undercooling behaviors of Fe-Cr alloys studied with the elec-   |                          |
|   | Magnesium oxide, Reactions (chemical)  | 000 0000                 | tromagnetic levitation method. Interaction energy between martensitic variants.   | 1827-1833A<br>2583-2590A |
|   | A study of the sulfide capacities of iron-oxide containing slags.  Kinetics of oxychlorination of magnesium oxide.   | 909-920B<br>1009-1015B   | Evaluation of the methods for calculating the concentration-  |                          |
|   | The effect of MgO on liquidus temperatures of fayalite slags.  | 1017-1026B               | dependent diffusivity in binary systems.  Open-die forging of structurally porous sandwich panels.  | 2605-2610A               |
|   | Magnesium oxide, Reduction (chemical)  |                          | Influence of the localized initial plastic deformation on the   | 2689-2699A               |
|   | Chlorination and carbochlorination of magnesium oxide.  Nonisothermal gravimetric investigation on kinetics of reduc-  | 383-391B                 | effective thermomechanical response of metal-matrix com-  | 0075 00044               |
|   | tion of magnesia by aluminum.  | 1003-1008B               | posites.  Approximate models of microsegregation with coarsening.   | 2875-2884A<br>3016-3019A |
|   | Magnetic domains   |                          | Evaluation of interaction parameters in metallic solutions by   | 0100 01104               |
|   | Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-<br>ory alloys.   | 2721-2723A               | the isoactivity method.   | 3103-3110A               |
|   | Magnetic fields  | LILI LILON               | Mathematical models  Thermodynamic modeling of the palladium-lead-tin system.   | 5-18A                    |
|   | Suppression of channel convection in solidifying Pb-Sn alloys  |                          | The effects of pre-dissolved hydrogen on cleavage and grain   |                          |
|   | via an applied magnetic field.   | 1809-1815A               | boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-<br>4Mo-4Zr. I.   | 65-79A                   |
|   | Manganese, Diffusion  Multicomponent diffusion simulation based on finite elements.  | 2575-2582A               | An interacting pair model for alkaline binary and ternary liquid  | 67.74D                   |
|   | Manganese compounds, Phase transformations   |                          | silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> .  Mathematical modeling of copper and brass upcasting. | 67-74B<br>75-98B         |
|   | Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-  |                          | A method for extracting phase change kinetics from dilation for   |                          |
| 1 | ory alloys.  | 2721-2723A               | multistep transformations: austenitization of a low carbon<br>steel.  | 107-117B                 |
| 1 | Manganese compounds, Reactions (chemical) Kinetics of simultaneous reactions between liquid iron-carbon  |                          | A mathematical model of the heat and fluid flows in direct-chill  | 110 122B                 |
| 1 | alloys and slags containing MnO.   | 279-286B                 | casting of aluminum sheet ingots and billets.  A mathematical model for surface segregation in aluminum   | 119-133B                 |
|   | Martensite   |                          | direct chill casting.   | 135-142B                 |
|   | Effect of deformation on the damping capacity in an Fe-23%<br>Mn alloy.  | 667-670A                 | Settling of multisized clusters of alumina particules in liquid alu-<br>minum.  | 241-247B                 |
|   | Infuence of martensite content and morphology on tensile and   |                          | Thermodynamic calculation for alloy systems.  | 271-277B                 |
|   | impact properties of high-martensite dual-phase steels.  | 1193-1202A               | Kinetics of simultaneous reactions between liquid iron-carbon<br>alloys and slags containing MnO.   | 279-286B                 |
|   | Martensitic stainless steels, Mechanical properties Growth of small fatigue cracks in PH 13-8 Mo stainless steel.  | 1289-1300A               | Two-dimensional dynamic simulation of the thermal state of ladles.  | 202 2200                 |
|   | Martensitic transformations  |                          | A mathematical model for the dynamic behavior of melts sub-   | 323-330B                 |
|   | Stabilization and two-way shape memory effect in Cu-Al-Ni sin-   |                          | jected to electromagnetic forces. II. Measurement of surface  |                          |
|   | gle crystals.  Microstructure and martensitic transformations in a dual-phase  | 493-499A                 | waves and comparison with predictions of the mathematical model.  | 331-339B                 |
|   | $\alpha/\beta$ Cu-Zn alloy.<br>Kinetics of homogeneous martensitic nucleation in iron-based  | 729-739A                 | Discussion of "Mixing time and fluid flow phenomena in liquids<br>of varying kinematic viscosities agitated by bottom gas injec-                  |                          |
|   | alloys.  | 884-887A                 | tion" and authors' reply.   | 349-352B                 |
|   | Pseudoelastic behavior of a CuAlNi single crystal under uniax-<br>ial loading.   | 1933-1943A               | Combined effects of time and temperature on strength evolu-<br>tion using integral work-of-sintering concepts.                                    | 465-470A                 |
|   | Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-  |                          | Modeling macro- and microstructures of gas-metal-arc welded   |                          |
|   | ory alloys.  | 2721-2723A               | HSLA-100 steel.  Least-squares adjustment of mathematical model of heat and   | 483-493B                 |
|   | Martensitic transformations, Alloying effects Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.   | 2599-2604A               | mass transfer processes during solidification of binary alloys.   | 505-513B                 |
|   | Martensitic transformations, Deformation effects   | 2000 200 111             | Mathematical modeling of a melt pool driven by an electron<br>beam.   | 515-525B                 |
|   | Strain dependence of pseudoelastic hysteresis of NiTi.   | 1275-1282A               | On the mechanism of mushy layer formation during droplet-   |                          |
|   | Martensitic transformations, Heating effects   |                          | based processing.  Discussion of "Decay of fluid motion in a filling ladle after tap-   | 527-539B                 |
|   | Formation of hcp martensite during the isothermal aging of an fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.  | 1177-1184A               | ping" and author's reply.   | 541-543B                 |
|   | Martensitic transformations, Processing effects  |                          | Numerical calculation of the permeability in a dendritic mushy zone.  | 613-622B                 |
|   | Transformation behavior of sintered porous NiTi alloys.  | 2753-2756A               | Direction of grain-boundary migration in the weld metal of an<br>austenitic stainless steel.  | 621-626A                 |
|   | Martensitic transformations, Stress effects Stress-induced products in a Ti-14.8V alloy deformed in ten-   |                          | Modeling of inclusion removal in a tundish.   | 639-654B                 |
|   | sion.  | 2249-2251A               | Cavity sequences in continuously cast billets. II. Stochastic models.   | 763-772B                 |
|   | Interaction energy between martensitic variants.   | 2583-2590A               | Droplet formation, detachment, and impingement on the mol-  |                          |
|   | Martensitic transformations, Welding effects Microstructural zones in the primary solidification structure of  |                          | ten pool in gas metal arc welding.  Optimizing the operation of straight-grate iron-ore pellet indura-  | 791-801B                 |
|   | weldment of 9Cr-1Mo steel.   | 161-174A                 | tion systems using process models.  | 803-813B                 |
|   |  |                          |   |                          |

| 9 | 55  |                          | morybacrium compounds, or you  | ar growth           |
|---|---|--------------------------|--|---------------------|
|   | Analysis of temperature and microstructure in the quenching of steel cylinders.   | 815-822B                 | Medium carbon steels, Casting Cavity sequences in continuously cast billets. I. Analysis of                                    |                     |
|   | Mechanical behavior of Al-Li/SiC composites. III. Microme-<br>chanical modeling.  | 869-878A                 | empirical data.  Cavity sequences in continuously cast billets. II. Stochastic   | 751-761B            |
|   | A study of the sulfide capacities of iron-oxide containing slags.<br>An analytical model for nodular eutectic grain predictions dur-                                    | 909-920B                 | models.  | 763-772B            |
|   | ing solidification.  Mathematical model for nitrogen control in oxygen steelmak-  | 927-932B                 | Melting Superheating behavior of NiAl: Authors' reply.   | 3265A               |
|   | ing.  Modeling and measurement of the notched strength of gamma   | 945-956B                 | Mercury, Melting   |                     |
|   | titanium aluminides under monotonic loading.  | 949-959A                 | Spout eyes formed by an emerging gas plume at the surface of<br>a slag-covered metal melt.                                     | 411-418B            |
|   | LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe.   | 957-967B                 | Mercury, Physical properties   |                     |
|   | Mathematical modeling of pneumatic char injection in a direct reduction rotary kiln.  | 969-977B                 | A mathematical model for the dynamic behavior of melts sub-<br>jected to electromagnetic forces. II. Measurement of surface    |                     |
|   | Use of microstructural statistics in predicting polycrystalline<br>material properties.   | 969-979A                 | waves and comparison with predictions of the mathematical<br>model.  | 331-339B            |
|   | An intergranular creep crack growth model based on grain  |                          | Mercury, Thermal properties  |                     |
|   | boundary sliding. A process model for the microstructure evolution in ductile cast  | 1039-1045A               | Nonstationary hot wire method with silica-coated probe for<br>measuring thermal conductivities of molten metals.               | 1971-1979A          |
|   | iron. I. The model.  A process model for the microstructure evolution in ductile cast   | 1053-1068A               | Metallic glasses, Mechanical properties  |                     |
|   | iron. II. Applications of the model.  Three-dimensional modeling of the flow and the interface sur-   | 1069-1079A               | Mechanisms for fracture and fatigue-crack propagation in a<br>bulk metallic glass.   | 1739-1753A          |
|   | face in a continuous casting mold model.  Erratum to "Numerical calculation of the permeability in a den-   | 1095-1105B               | Metallurgy   |                     |
|   | dritic mushy zone".   | 1107B                    | Greenhouse gases and the metallurgical process industry.   | 841-856B            |
|   | A study on the kinetic process of reaction synthesis of TiC. I.<br>Experimental research and theoretical model.   | 1147-1151A               | Metastable phases Deformation of metastable austenite and resulting properties   |                     |
|   | A study on the kinetic process of reaction synthesis of TiC. II.  Theoretical analyses and numerical calculation.   | 1153-1157A               | during the ausform-finishing of 1% carburized AISI 9310<br>steel gears.  | 183-193A            |
|   | Considering particle morphology in a constitutive model for<br>metal powders compaction.  | 1159-1162A               | $\beta{\to}\alpha"$ and $\beta{\to}\omega$ transformations in Ti-Os alloys.  | 231-233A            |
|   | Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.   | 1203-1209A               | Metastable phases, Cooling effects  Effect of the primary phase on grain coarsening in undercooled                             |                     |
|   | Influence of grain size on the constitutive response and sub-   |                          | Fe-Co alloys.  | 2941-2949A          |
|   | structure evolution of Monel 400.  Precipitate-induced plastic anisotropy: explicit solutions of the  | 1235-1247A               | Microcracks  Application of image processing for simulation of mechanical  |                     |
|   | plastic anisotropy due to plate-shaped precipitates.  Time-dependent deformation behavior of near-eutectic 60Sn-  | 1283-1288A               | response of multi-length scale microstructures of engineering alloys.  | 2369-2381A          |
|   | 40Pb solder. Finite-element modeling of nonisothermal equal-channel angu-   | 1301-1313A               | Microgravity   | 2000 200 111        |
|   | lar extrusion.  Cavitation and failure during hot forging of Ti-6Al-4V.   | 1391-1402A<br>1411-1424A | Electrochemical interfacial phenomena under microgravity. II.  Numerical analysis of the rate of ionic mass transfer accom-    |                     |
|   | Thermodynamic modeling of the nickel-lead-tin system.   | 1481-1494A               | panying anodic copper dissolution.  Anomalous pore morphologies in liquid-phase-sintered Al-Zn                                 | 779-790B            |
|   | Aluminum nitride precipitation and texture development in<br>batch-annealed bake-hardening steel.   | 1663-1673A               | alloys.  | 1682-1685A          |
|   | Modeling solid-particle erosion of ductile alloys.  A general numerical method to solve for dislocation configura-  | 1763-1774A               | Discussion of "Particle engulfment and pushing by solidying<br>interfaces. II. Microgravity experiments and theoretical analy- |                     |
|   | tions.  Mathematical modeling of microstructural development in   | 2073-2087A               | sis" and authors' reply.  Dendritic growth tip velocities and radii of curvature in micro-                                     | 1887-1894A          |
|   | hypoeutectic cast iron.  A unified model of microsegregation and coarsening.  | 2147-2158A<br>2183-2189A | gravity.   | 3177-319 <b>(</b> A |
|   | Application of percolation theory in predicting shape distortion  | 2209-2220A               | Microhardness Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2   |                     |
|   | during liquid-phase sintering. Fifty-year study of grain-boundary relaxation.   | 2267-2295A               | at.% Cr-2 at.% Nb.   | 2723-2726A          |
|   | Application of image processing for simulation of mechanical<br>response of multi-length scale microstructures of engineering   |                          | Microhardness, Heating effects  Phase transformation of Zn-4Al-3Cu alloy during heat treat-                                    |                     |
|   | alloys.  Deformation bands, the LEDS theory, and their importance in  | 2369-2381A               | ment.  | 917-923A            |
|   | texture development. II. Theoretical conclusions.  Deformation bands, the LEDS theory, and their importance in  | 2391-2401A               | Microstructure, Processing effects  The solidification characteristics of laser surface-remelted Fe-                           |                     |
|   | texture development. I. Previous evidence and new observa-<br>tions.  | 2491-2501A               | 12Cr-nC alloys.  | 1817-1826A          |
|   | Effect of fiber spatial arrangement on the transverse strength  |                          | Miscibility  Thermodynamics of the miscibility gap in the Ag-Se system.  | 589-595B            |
|   | of titanium matrix composites.  A numerical model of peritectoid transformation.  | 2513-2522A<br>2563-2573A | Modulus of elasticity, Temperature effects   |                     |
|   | Multicomponent diffusion simulation based on finite elements.  A general approach for predicting the drawing fracture load  | 2575-2582A               | Temperature and composition dependence of the elastic con-<br>stants of Ni <sub>3</sub> Al.                                    | 2403-2408A          |
|   | and limit drawing ratio of an axisymmetric drawing process.  Mathematical modeling of the hot-deformation behavior of   | 2619-2627A               | Molybdenum, Binary systems   | 0500 05704          |
|   | superalloy IN718. The influence of internal stresses on the fracture toughness of   | 2701-2712A               | A numerical model of peritectoid transformation.  Molybdenum, Coating  | 2563-2573A          |
|   | α/β titanium alloys.  | 2853-2863A               | Development of a diffusion barrier layer for silicon and carbon  | 700 0004            |
|   | A process model for the heat-affected zone microstructure evo-<br>lution in duplex stainless steel weldments. I. The model.   | 2915-2929A               | in molybdenum—a physical vapor deposition approach.  Molybdenum, Composite materials   | 799-806A            |
|   | Modeling of composite growth in the directed aluminum melt<br>nitridation process.  | 2951-2958A               | Elastic phase-strain distribution in a particulate-reinforced  | 0000 00074          |
|   | A self-consistent model for predicting interaction parameters in<br>multicomponent alloys.  | 3099-3102A               | metal-matrix composite deforming by slip or creep.  Molybdenum, Diffusion  | 2989-2997A          |
| М | attes, Reactions (chemical)   |                          | Growth of silicides and interdiffusion in the Mo-Si system.  | 545-550A            |
|   | Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes.  | 443-450B                 | Molybdenum, Ternary systems  Experimental and thermodynamic investigation of the Ni-Al-Mo                                      |                     |
|   | Erratum:"Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".  |                          | system.  | 1785-1795A          |
| M | echanical alloying  | 0010                     | Experimental study and thermodynamic assessment of the Ni-<br>Mo-Ta ternary system.  | 2735-2744A          |
|   | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the α+γ-phase field.  Closure-affected fatigue crack propagation behaviors of pow- | 751-761A                 | Molybdenum base alloys, Powder technology<br>Hot explosive compaction of Mo-Ti alloys.   | 2483-2489A          |
|   | der metallurgy-processed Al-Li alloys in various environ-<br>ments.   | 2097-2102A               | Molybdenum compounds, Crystal growth Growth of silicides and interdiffusion in the Mo-Si system.                               | 545-550A            |
|   |   | 2007 Z 10ZA              | S. S. Miller of Sandrago and anti-diffusion in the St. of Stern.   |                     |

| Molybdenum compounds, Thin films Development of a diffusion barrier layer for silicon and carbon                            |             | Erratum:"Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".   | 831B                     |
|---|-------------|--|--------------------------|
| in molybdenum—a physical vapor deposition approach.  Morphology   | 799-806A    | Nickel, Ternary systems Investigation of the surface of the liquidus of the Fe-Ni-S sys-   |                          |
| Precipitation of an intermetallic phase with Pt₂Mo-type struc-<br>ture in alloy 625.  | 41-52A      | tem at $\rm X_s$ <0.51. Thermodynamic modeling of the nickel-lead-tin system.  | 715-722B<br>1481-1494A   |
| Dendritic morphology observed in the solid-state precipitation<br>in binary alloys.   | 1529-1534A  | Experimental and thermodynamic investigation of the Ni-Al-Mo system.   | 1785-1795A               |
| Eutectic cell wall morphology and tensile embrittlement in fer-<br>ritic spheroidal graphite cast iron.                     | 1775-1784A  | Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems.   | 2409-2418A               |
| The Alstruc microstructure solidification model for industrial  |             | Experimental study and thermodynamic assessment of the Ni-   |                          |
| aluminum alloys.  Mathematical modeling of microstructural development in   | 2135-2146A  | Mo-Ta ternary system.  Nickel base alloys, Bonding   | 2735-2744A               |
| hypoeutectic cast iron.<br>Cellular/dendritic array tip morphology during directional solidi-                               | 2147-2158A  | Bulk-alloy microstructural analogues for transient liquid-phase bonds in the NiAl/Cu/Ni system.  | 3111-3124A               |
| fication of Pb-5.8 wt.% Sb alloy.   | 2463-2472A  | Nickel base alloys, Coating  |                          |
| Morphology, Alloying effects  The effect of manganese addition on the microstructure of W-                                  |             | Mechanism of spallation in platinum aluminide/electron beam<br>physical vapor-deposited thermal barrier coatings.                        | 427-435A                 |
| Ni-Fe heavy alloy.  Studies of the morphology of the Al-rich interfacial layer formed                                       | 627-632A    | Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating  |                          |
| during the hot dip galvanizing of steel sheet.  | 681-695A    | on a desulfurized Ni-base superalloy.  | 2679-2687A               |
| Effect of cold rolling and annealing on the structure of γ" precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.                   | 1923-1931A  | Nickel base alloys, Coatings<br>Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating<br>on a desulfurized Ni-base superalloy. | 2679-2687A               |
| Morphology, Coating effects  Characterization of the W <sub>2</sub> C phase formed during the high                          |             | Nickel base alloys, Crystal growth   | 2010 200111              |
| velocity oxygen fuel spraying of a WC+12% Co powder.  | 1913-1921A  | Recrystallization activation energy in mechanically alloyed<br>oxide-dispersion-strengthened metals measured by differen-                |                          |
| Morphology, Cooling effects Relation between cooling rates and microstructures in gravity-                                  |             | tial scanning calorimetry.   | 1885-1887A               |
| die-cast AZ91D disks.   | 723-729B    | Liquid-solid partition ratios in nickel-base alloys.   | 2173-2181A               |
| Morphology, Deformation effects   |             | Nickel base alloys, Diffusion  A new analysis for the determination of ternary interdiffusion  |                          |
| Influence of pressing speed on microstructural development in<br>equal-channel angular pressing.                            | 1989-1997A  | coefficient from a single diffusion couple.  | 535-543A                 |
| Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.                       | 2503-2512A  | Nickel base alloys, Directional solidification Directional solidification and phase equilibria in the Ni-Al sys-                         |                          |
| Deformed microstructure of the single-crystal superalloy  |             | tem.   | 3167-3175A               |
| NASAIR 100 at 1050°C.   | 2843-2852A  | Nickel base alloys, Heat treatment   |                          |
| Morphology, Heating effects Influence of the Mn content on the kinetics of austempering                                     |             | Evaluation of halide-activated pack boriding of Inconel 722.   | 670-675A                 |
| transformation in compacted graphite cast iron.   | 2745-2752A  | Nickel base alloys, Mechanical properties Cavitation erosion of NiAl.  | 335-343A                 |
| Morphology, Welding effects  Modeling macro- and microstructures of gas-metal-arc welded                                    |             | The effects of Mg microadditon on the mechanical behavior<br>and fracture mechanism of MAR-M247 superalloy at ele-                       |                          |
| HSLA-100 steel.  Microstructural evolution of 6063 aluminum during friction-stir  | 483-493B    | vated temperatures.  | 551-561A                 |
| welding.  | 2429-2437A  | High-temperature deformation behavior of NiAl(Ti) solid-solu-<br>tion single crystals.   | 587-600A                 |
| A process model for the heat-affected zone microstructure evo-<br>lution in Al-Zn-Mg weldments.                             | 2667-2677A  | Slip transfer and dislocation nucleation processes in mul-<br>tiphase ordered Ni-Fe-Al alloys.   | 991-1001A                |
| A process model for the heat-affected zone microstructure evo-<br>lution in duplex stainless steel weldments. I. The model. | 2915-2929A  | Deformation and fracture behavior of a directionally solidified β/ γ' Ni-30 at.% Al alloy.   | 1003-1015A               |
| Necking   | 2010 202011 | An intergranular creep crack growth model based on grain   |                          |
| Deformed microstructure of the single-crystal superalloy<br>NASAIR 100 at 1050°C.   | 2843-2852A  | boundary sliding.<br>Influence of grain size and stacking-fault energy on deforma-   | 1039-1045A               |
| Neodymium, Binary systems   | 2043-2032A  | tion twinning in fcc metals.  Influence of grain size on the constitutive response and sub-  | 1223-1233A               |
| The neodymium-gold phase diagram.   | 1169-1176A  | structure evolution of Monel 400.  | 1235-1247A               |
| Nickel, Alloying additive Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu   |             | Influence of secondary precipitates and crystallographic orien-<br>tation on the strength of single crystals of a Ni-based super-        |                          |
| alloy.  | 1017-1024A  | alloy.<br>Hydrogen embrittlement, grain boundary segregation, and  | 1249-1259A               |
| Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys<br>with nickel additions.              | 2629-2639A  | stress corrosion cracking of alloy X-750 in low- and high-tem-   | 4570 45004               |
| Nickel, Binary systems  |             | perature water.  Effect of small amounts of nitrogen on properties of a Ni-based   | 1579-1596A               |
| Dendritic morphology observed in the solid-state precipitation<br>in binary alloys.   | 1529-1534A  | superalloy.  Modeling solid-particle erosion of ductile alloys.  | 1755-1761A<br>1763-1774A |
| The influence of temperature gradients on Ostwald ripening.   | 2341-2348A  | Temperature and composition dependence of the elastic con-   |                          |
| A numerical model of peritectoid transformation.  Determination of the critical nucleus size of precipitates using          | 2563-2573A  | stants of Ni <sub>3</sub> Al.  Environmental embrittlement caused by hydrogen for interme-   | 2403-2408A               |
| the macroscopic composition gradient method.  Directional solidification and phase equilibria in the Ni-Al sys-             | 2783-2789A  | tallic compounds: preliminary model of ductility reduction.  | 3089-3097A               |
| tem.  | 3167-3175A  | Nickel base alloys, Melting Discussion of "Superheating behavior of NiAl".   | 1675A                    |
| Nickel, Bonding Bulk-alloy microstructural analogues for transient liquid-phase   |             | Nickel base alloys, Metal working  |                          |
| bonds in the NiAl/Cu/Ni system.   | 3111-3124A  | Mathematical modeling of the hot-deformation behavior of<br>superalloy IN718.  | 2701-2712A               |
| Nickel, Diffusion  A new analysis for the determination of ternary interdiffusion   |             | Nickel base alloys, Metallography  |                          |
| coefficient from a single diffusion couple.  Evaluation of the methods for calculating the concentration-                   | 535-543A    | Transmission x-ray diffraction of single-crystal nickel-base<br>superalloys.   | 1880-1882A               |
| dependent diffusivity in binary systems.  | 2605-2610A  | Nickel base alloys, Microstructure   |                          |
| Nickel, Powder technology   |             | Deformed microstructure of the single-crystal superalloy<br>NASAIR 100 at 1050°C.  | 2843-2852A               |
| Shock-induced reaction synthesis of isomorphous (Cu-Ni) and<br>immiscible (Cu-Nb) compounds.                                | 1367-1379A  | Nickel base alloys, Oxidation  | LOULN                    |
| Application of percolation theory in predicting shape distortion during liquid-phase sintering.                             | 2209-2220A  | The effect of water vapor on the oxidation of alloys that develop alumina scales for protection.   | 2905-2913A               |
| Nickel, Reactions (chemical)  | LLVU ELEUM  | Nickel base alloys, Phase transformations  | 2000-2010A               |
| Model prediction of thermodynamic properties of Co-Fe-Ni-S mattes.  | 443-450B    | Effect of cold rolling on the precipitation behavior of $\delta$ phase in  | 04 404                   |
| matte.  | 443-4508    | Inconel 718.   | 31-40A                   |

|  |                          | -  |                          |
|--|--------------------------|--|--------------------------|
| Precipitation of an intermetallic phase with Pt <sub>2</sub> Mo-type structure in alloy 625.  Characterization and modeling of the precipitation of the sigma          | 41-52A                   | Niobium, Alloying additive<br>Effect of cold rolling and annealing on the structure of $\gamma^*$ precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.  | 1923-1931A               |
| phase in Udimet 720 and Udimet 720LI.  Strain dependence of pseudoelastic hysteresis of NiTi.  | 521-533A<br>1275-1282A   | Nioblum, Composite materials Fatigue-crack propagation behavior of ductile/brittle laminated   | 1020 1301A               |
| Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem-<br>ory alloys.   | 2721-2723A               | composites.  Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils.   | 633-642A<br>2959-2965A   |
| Transformation behavior of sintered porous NiTi alloys.<br>Superheating behavior of NiAl: Authors' reply.<br>Nickel base alloys, Phases (state of matter)              | 2753-2756A<br>3265A      | Finite-element method simulation of effects of microstructure,<br>stress state, and interface strength on flow localization and<br>constraint development in Nb/Cr <sub>2</sub> Nb in situ composites. | 3239-3251A               |
| Prediction and characterization of variant electron diffraction patterns for γ" and δ precipitates in an Inconel 718 alloy.  | 2297-2303A               | Niobium, Powder technology   | 0200 020171              |
| Nickel base alloys, Powder technology  | LEGI LOGGI               | Shock-induced reaction synthesis of isomorphous (Cu-Ni) and<br>immiscible (Cu-Nb) compounds.   | 1367-1379A               |
| Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-contain-<br>ing alloys.  Densification during the supersolidus liquid-phase sintering of                       | 171-188B                 | Niobium, Ternary systems Thermodynamic activities in the alloys of the Ti-Al-Nb system.  | 1315-1326A               |
| nickel-based prealloyed powder mixtures.  Nickel base alloys, Structural hardening   | 2201-2208A               | Niobium base alloys, Composite materials Fatigue-crack propagation behavior of ductile/brittle laminated   |                          |
| Effect of cold rolling and annealing on the structure of γ' precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.  | 1923-1931A               | composites.  Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils.   | 633-642A<br>2959-2965A   |
| Nickel base alloys, Thermal properties Microstructure and texture effect on the thermal expansion of a   |                          | Niobium base alloys, Mechanical properties  Evidence of void nucleation and growth on planar slip bands in   |                          |
| variously aged polycrystalline superalloy IN738LC.   | 2803-2808A               | a Nb-Cr-Ti alloy.  Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-  | 579-585A                 |
| Nickel base alloys, Welding Hot cracking susceptibility of fillers 52 and 82 in alloy 690 weld-  |                          | solution alloys.  An investigation of the fatigue and fracture behavior of a Nb-   | 925-939A                 |
| ing.  The thermal fatigue behavior of the combustor alloys IN 617  | 417-426A                 | 12Al-44Ti-1.5Mo intermetallic alloy.  Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti  | 1025-1038A               |
| and Haynes 230 before and after welding.  Comparison of three different techniques for measuring the   | 981-989A                 | solid-solution alloys".  The fatigue and fracture resistance of a Nb-Cr-Ti-Al alloy.   | 1686A<br>2007-2018A      |
| residual stresses in an electron beam-welded plate of<br>Waspaloy.   | 1797-1808A               | Correction to erratum: Effects of Ti addition on cleavage frac-<br>ture in Nb-Cr-Ti solid solution alloys.   | 3025A                    |
| Nickel chromium molybdenum steels, Extrusion<br>Workability of commercial-purity titanium and 4340 steel during  |                          | Niobium base alloys, Oxidation Oxidation behavior of niobium aluminide intermetallics pro-   |                          |
| equal channel angular extrusion at cold-working tempera-<br>tures.   | 1425-1435A               | tected by aluminide and silicide diffusion coatings.   | 495-504B                 |
| Nickel chromium molybdenum steels, Heat treatment  | 1425-1455A               | Niobium base alloys, Powder technology Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-contain-  |                          |
| The effect of ion implanting on hydrogen entry into metals.  | 1535-1540A               | ing alloys.  Niobium compounds, Composite materials  | 171-188B                 |
| Nickel chromium molybdenum steels, Mechanical properties<br>The effects of grain-refining precipitates on the development of<br>toughness in 4340 steel.               | 93-114A                  | Fatigue-crack propagation behavior of ductile/brittle laminated composites.  | 633-642A                 |
| The influence of tensile stress states on the failure of HY-100 steel.   | 2835-2842A               | Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils. Finite-element method simulation of effects of microstructure,   | 2959-2965A               |
| Nickel chromium molybdenum steels, Metal working   | 2000 2012/1              | stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  | 3239-3251A               |
| Deformation of metastable austenite and resulting properties<br>during the ausform-finishing of 1% carburized AISI 9310<br>steel gears.                                | 183-193A                 | Niobium compounds, Mechanical properties The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.   | 2349-2367                |
| Nickel compounds, Bonding Bulk-alloy microstructural analogues for transient liquid-phase  |                          | Niobium compounds, Oxidation Oxidation behavior of niobium aluminide intermetallics pro-   | 1                        |
| bonds in the NiAl/Cu/Ni system.  | 3111-3124A               | tected by aluminide and silicide diffusion coatings.   | 495-504B                 |
| Nickel compounds, Coatings  Nickel monoaluminide coating on ultralow-carbon steel by reactive sintering.   | 1605-1612A               | Niobium compounds, Phase transformations The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I.   | 2305-2323A               |
| Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating<br>on a desulfurized Ni-base superalloy.   | 2679-2687A               | Niobium compounds, Powder technology Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-contain-  |                          |
| Nickel compounds, Directional solidification Directional solidification and phase equilibria in the Ni-Al sys-   |                          | ing alloys. Nitrides, Coatings   | 171-188B                 |
| tem.  Nickel compounds, Mechanical properties  | 3167-3175A               | Synthesis and characterization of Ti-Si-C-N films.   | 2439-2447A               |
| Cavitation erosion of NiAl.  High-temperature deformation behavior of NiAl(Ti) solid-solu-   | 335-343A                 | Nitrides, Heating effects The nitriding behavior of Ti-Al alloys at 1000°C.  | 19-29A                   |
| tion single crystals.  Deformation and fracture behavior of a directionally solidified β.  | 587-600A                 | Nitriding The nitriding behavior of Ti-Al alloys at 1000°C.  | 19-29A                   |
| γ Ni-30 at.% Al alloy.  Temperature and composition dependence of the elastic con-   | 1003-1015A               | Mechanism of surface modification of the Ti-6Al-4V alloy using<br>a gas tungsten arc heat source.  | 1597-1603A               |
| stants of Ni <sub>3</sub> AI.  Environmental embrittlement caused by hydrogen for interme-   | 2403-2408A               | Application of the cluster variation method to ordering in an interstitial solid soution: the γ-Fe[N]/γ-Fe <sub>4</sub> N <sub>1-x</sub> equilibrium.  | 1945-1953A               |
| tallic compounds: preliminary model of ductility reduction.  Nickel compounds, Melting   | 3089-3097A               | Nitrogen, Alloying additive Effect of small amounts of nitrogen on properties of a Ni-based  |                          |
| Discussion of "Superheating behavior of NiAl".   | 1675A                    | superalloy.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.  | 1755-1761A<br>2599-2604A |
| Nickel compounds, Phase transformations Strain dependence of pseudoelastic hysteresis of NiTi. Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape mem- | 1275-1282A               | Nitrogen, Alloying elements Mathematical model for nitrogen control in oxygen steelmak-  |                          |
| ory alloys.  Transformation behavior of sintered porous NiTi alloys.   | 2721-2723A<br>2753-2756A | ing.<br>Nitrogen, Diffusion  | 945-956B                 |
| Superheating behavior of NiAl: Authors' reply.  Nickel compounds, Powder technology  | 3265A                    | Mechanism of surface modification of the Ti-6Al-4V alloy using<br>a gas tungsten arc heat source.  | 1597-1603A               |
| Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys.   | 171-188B                 | Influence of annealing on depth distributions and microstruc-<br>ture of ion-implanted Ti6Al4V.  | 2121-2127A               |
| Nickel iron, Mechanical properties  Correlation of microstructure and microfracture mechanism of   |                          | Nitrogen, Reactions (chemical) Thermodynamics of surfaces and adsorption in the Fe-S, Fe-  |                          |
| five work rolls.   | 234-243A                 | N, and Fe-S-N systems at 1823K.  | 429-433B                 |
|  |                          |  |                          |

| Nodular iron, Crystal growth  An analytical model for nodular eutectic grain predictions dur-   |                          | The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling.   | 2767-2781A               |
|---|--------------------------|--|--------------------------|
| ing solidification.  Nodular iron, Mechanical properties  | 927-932B                 | Nucleation, Pressure effects Pore nucleation in solidifying high-purity copper.  | 2449-2453A               |
| Correlation of microstructure and microfracture mechanism of<br>five work rolls.<br>Effect of residual magnesium content on thermal fatigue crack-                                | 234-243A                 | Nucleation, Temperature effects Theoretical calculation of nucleation temperature and the  |                          |
| ing behavior of high-silicon spheroidal graphite cast iron.  Eutectic cell wall morphology and tensile embrittlement in fer-  | 1549-1558A               | undercooling behaviors of Fe-Cr alloys studied with the elec-<br>tromagnetic levitation method.  | 1827-1833A               |
| ritic spheroidal graphite cast iron.  Nodular iron, Phase transformations   | 1775-1784A               | Open die forging Open-die forging of structurally porous sandwich panels.  | 2689-2699A               |
| A process model for the microstructure evolution in ductile cast iron. I. The model.  | 1053-1068A               | Order disorder, Coating effects Synthesis and characterization of Ti-Si-C-N films.   | 2439-2447A               |
| A process model for the microstructure evolution in ductile cast<br>iron. II. Applications of the model.<br>Influence of the Mn content on the kinetics of austempering           | 1069-1079A               | Orientation relationships Lattice correspondence and fivefold twins of the orthorhombic (2/1, 1/1) and (1/0, 2/1) approximants in a Ga-Fe-Cu-Si alloy.                       | 697-705A                 |
| transformation in compacted graphite cast iron.  Nonferrous castings, Crystal growth  | 2745-2752A               | Use of microstructural statistics in predicting polycrystalline material properties.   | 969-979A                 |
| Mathematical modeling of copper and brass upcasting.  Modeling the fluid-flow-induced stress and collapse in a den-   | 75-98B                   | Orientation relationship between $\beta$ -Mn and L2 $_1$ matrix in a Cu $_2$ MnAI alloy.   | 1705-1716A               |
| dritic network.  High-energy x-ray computed tomography of the progression of  | 287-293B                 | The Pitsch-Petch orientation relationship in ferrous pearlite at small undercooling.   | 2767-2781A               |
| the solidification front in pure aluminum.  Nonferrous castings, Mechanical properties The effect of Sr and Fe additions on the microstructure and                                | 1403-1409A               | Orientation relationships, Heating effects Influence of secondary precipitates and crystallographic orientation on the strength of single crystals of a Ni-based superalloy. | 1249-1259A               |
| mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy.  | 1341-1356A               | Osmium, Binary systems   |                          |
| The effect of solidification rate on the growth of small fatigue<br>cracks in a cast 319-type aluminum alloy.<br>The debonding and fracture of Si particles during the fatigue of | 3055-3068A               | $\beta \rightarrow \alpha''$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys.  Ostwald ripening of an ALL CLAMA 7 calls:                                      | 231-233A                 |
| a cast Al-Si alloy.  Nonferrous castings, Microstructure  | 3079-3088A               | Aging behavior of an Al-Li-Cu-Mg-Zr alloy.  Ostwald ripening, Temperature effects  | 741-749A                 |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.   | 1643-1650A               | The influence of temperature gradients on Ostwald ripening.  Oxidation rate  | 2341-2348A               |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.   | 1651-1655A               | Simultaneous oxidation and sigma-phase formation in a stain-<br>less steel.  | 355-362A                 |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.  Nonferrous castings, Quality control                               | 1657-1662A               | Oxidation resistance, Alloying effects Surface oxide and the role of magnesium during the sintering of aluminum.   | 457-463A                 |
| The heat-transfer coefficient during the unidirectional solidifica-<br>tion of an Al-Si alloy casting.  | 473-482B                 | Oxidation resistance, Coating effects Oxidation behavior of niobium aluminide intermetallics pro-  |                          |
| Nonferrous metals, Extraction High-temperature phase relations and thermodynamics in the silver-tin-sulfur system.  | 707-714B                 | tected by aluminide and silicide diffusion coatings.  Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.    | 495-504B<br>799-806A     |
| Nonmetallic inclusions Modeling of inclusion removal in a tundish. Dispersion of fine primary inclusions of MgO and   | 639-654B                 | Oxidation resistance, Processing effects Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-containing alloys.  | 171-188B                 |
| ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.<br>Study of electromagnetic separation of nonmetallic inclusions                                       | 1053-1063B               | Improvement of hardness and resistance of oxidation by elec-<br>tric arc alloying on ferritic steels.  | 3263-3265A               |
| from aluminum melt.  Nonmetallic inclusions, Composition effects  Effect of residual magnesium content on thermal fatigue crack-  | 2979-2988A               | Oxygen, Environment<br>Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under<br>controlled atmospheric conditions.   | 2523-2538A               |
| ing behavior of high-silicon spheroidal graphite cast iron.  Nonmetallic inclusions, Processing effects   | 1549-1558A               | Oxygen steel making, Quality control<br>Mathematical model for nitrogen control in oxygen steelmak-<br>ing.  | 945-956B                 |
| Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, T, Al, Zr, and Ce.   | 249-257B                 | Painting   | 040 0000                 |
| Notch strength Modeling and measurement of the notched strength of gamma  | 040.0504                 | The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet.  | 1999-2006A               |
| titanium aluminides under monotonic loading.  Notch toughness, Deformation effects  The influence of rolling practice on notch toughness and tex-                                 | 949-959A                 | Paints, Heat treatment  The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet.                                    | 1999-2006A               |
| ture development in high-strength linepipe.  Nuclear fuels  | 3045-3054A               | Palladium, Ternary systems Thermodynamic modeling of the palladium-lead-tin system.  | 5-18A                    |
| Preparation and physical characteristics of a lithium-beryllium-<br>substituted fluorapatite.   | 147-153A                 | Panels, Coating Distribution of aluminum in hot-dip galvanized coatings.   | 3031-3044A               |
| Nuclear reactor components, Welding Microstructural zones in the primary solidification structure of  |                          | Panels, Forging Open-die forging of structurally porous sandwich panels.   | 2689-2699A               |
| weldment of 9Cr-1Mo steel.  Nucleation  | 161-174A                 | Partial pressure Pore nucleation in solidifying high-purity copper.  | 2449-2453A               |
| Evidence of void nucleation and growth on planar slip bands in<br>a Nb-Cr-Ti alloy.  Kinetics of homogeneous martensitic nucleation in iron-based                                 | 579-585A                 | Particle shape Considering particle morphology in a constitutive model for   | 1150 11001               |
| alloys.  An analytical model for nodular eutectic grain predictions dur-  | 884-887A                 | metal powders compaction.  Effect of size and shape of tungsten particles on dynamic torsional properties in tungsten heavy alloys.  | 1159-1162A<br>1261-1273A |
| ing solidification.  Thermodynamics of nucleation and supersaturation for the alu-  |                          | Particle size Effect of size and shape of tungsten particles on dynamic tor-   | 3                        |
| minum-deoxidation reaction in liquid iron.  Grain refinement of aluminum alloys. I. The nucleant and solute paradigms—a review of the literature.                                 | 1065-1074B               | sional properties in tungsten heavy alloys.  Determination of the critical nucleus size of precipitates using  | 1261-1273A               |
| Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm.   | 1613-1623A<br>1625-1633A | the macroscopic composition gradient method.  Particle size, Composition effects   | 2783-2789A               |
| Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys during aging in the single $\alpha$ field.  | 2591-2598A               | The effect of Mg on the microstructure and mechanical behavior of Al-Si-Mg casting alloys.   | 2611-2618A               |
|   |                          |  |                          |

| Particle size distribution   |                          | Pelleting  |                          |
|--|--------------------------|--|--------------------------|
| Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.  | 1053-1063B               | Optimizing the operation of straight-grate iron-ore pellet indura-<br>tion systems using process models.   | 803-813B                 |
| Particle size distribution, Processing effects Quantitative evaluation of inclusion in deoxidation of Fe-10 mass% Ni alloy with Si, T, Al, Zr, and Ce.   | 249-257B                 | Penetration, Coating effects  Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061.  | 2191-2199A               |
| Analysis of size distributions of primary oxide inclusions in Fe-<br>10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.   | 259-270B                 | Peritectic reactions The neodymium-gold phase diagram.   | 1169-1176A               |
| Particulate composites, Casting  Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifu-   |                          | Peritectoid reactions A numerical model of peritectoid transformation.   | 2563-2573A               |
| gal casting. I. Theoretical analysis.  Effect of interactions between bubbles and graphite particles in copper alloy melts on microstructure formed during centrifu-   | 361-367B                 | Permanent mold casting Relation between cooling rates and microstructures in gravity- die-cast AZ91D disks.  | 723-729B                 |
| gal casting. II. Experiments.  Fabrication and characteristics of AA6061/ $Si_8M_{40}$ composite by the pressureless infiltration technique.   | 369-373B<br>2999-3007A   | The effect of Sr and Fe additions on the microstructure and<br>mechanical properties of a direct squeeze cast Al-7Si-0.3Mg<br>alloy.   | 1341-1356A               |
| Particulate composites, Crystal growth Discussion of "Particle engulfment and pushing by solidying interfaces. II. Microgravity experiments and theoretical analy-   | 4007 40044               | Permanent mold casting, Quality control  The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.   | 473-482B                 |
| sis" and authors' reply.  Particulate composites, Extrusion Mechanical behavior of aluminum matrix composite during  | 1887-1894A               | Permanent mold castings, Microstructure Relation between cooling rates and microstructures in gravity- die-cast AZ91D disks.   | 723-729B                 |
| extrusion in the semisolid state.  Particulate composites, Mechanical properties Wear behavior of in situ Al-based composites containing   | 1137-1146A               | Permanent mold castings, Quality control  The heat-transfer coefficient during the unidirectional solidification of an Al-Si alloy casting.  | 473-482B                 |
| TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles. Fundamental aspects of creep in metal matrix composites. Synergistic effects of wear and corrosion for                             | 243-248A<br>315-324A     | Permeability Numerical calculation of the permeability in a dendritic mushy  |                          |
| Al <sub>2</sub> O <sub>3</sub> particulate-reinforced 6061 aluminum matrix composites. Monkman-Grant analysis of creep fracture in dispersion-   | 643-651A                 | zone. Erratum to "Numerical calculation of the permeability in a dendritic mushy zone".  | 613-622B<br>1107B        |
| strengthened and particulate-reinforced aluminum.  Mechanical behavior of Al-Li-SiC composites. I. Microstructure  | 829-838A                 | Experimental determination of mushy zone permeability in alu-<br>minum-copper alloys with equiaxed microstructures.  | 2455-2462A               |
| and tensile deformation.  Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.  Mechanical behavior of Al-Li/SiC composites. III. Microme-   | 845-855A<br>857-867A     | Permeability, Microstructural effects  Measurement of liquid permeability in the mushy zones of aluminum-copper alloys.  | 745-750B                 |
| chanical modeling.  Processing copper and silver matrix composites by electroless plating and hot pressing.  | 869-878A<br>1119-1136A   | PH<br>Quantitative analysis of the relative basicity of CaO and BaO<br>by silver solubility in slags.  | 689-694B                 |
| High-temperature mechanical behavior of Ti-6Al-4V alloy and TiC <sub>p</sub> /Ti-6Al-4V composite.  Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under  | 1569-1578A               | Phase decomposition The neodymium-gold phase diagram.  | 1169-1176A               |
| controlled atmospheric conditions.  Wear of Al-based hybrid composites containing BN and SiC particulates.   | 2523-2538A<br>2551-2555A | Phase decomposition, Heating effects  Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C.   | 345-353A                 |
| Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.<br>Finite-element method simulation of effects of microstructure,                                       | 2989-2997A               | Phase diagram reactions A process model for the microstructure evolution in ductile cast iron. I. The model.   | 1053-1068A               |
| stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites. Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrifugal method. | 3239-3251A               | A process model for the microstructure evolution in ductile cast iron. II. Applications of the model.  Phase diagram reactions, Heating effects  | 1069-1079A               |
| Particulate composites, Microstructure Settling of multisized clusters of alumina particules in liquid alu-  | 3253-3261A               | Phase transformation of Zn-4Al-3Cu alloy during heat treat-<br>ment.   | 917-923A                 |
| minum.  Particulate composites, Phase transformations Solutionizing effects on deformation-induced phase transfor-   | 241-247B                 | Phase diagram reactions, Pressure effects Partial Fe-Ti alloy phase diagrams at high pressure.  Phase diagram reactions, Processing effects  | 3009-3011A               |
| mations in 2014 aluminum composite.  Particulate composites, Reactions (chemical)  | 2539-2545A               | Directional solidification and phase equilibria in the Ni-Al system.   | 3167-3175A               |
| Interaction between nonstoichiomètric titanium carbide and Fe-<br>C alloys.  Particulate composites, Synthesis   | 857-863B                 | Phase diagrams  Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.  Thermodynamic assessment of the Al-Fe-Si system.   | 921-925B<br>1081-1095A   |
| A study on the kinetic process of reaction synthesis of TiC. I.  Experimental research and theoretical model.  A study on the kinetic process of reaction synthesis of TiC. II.  | 1147-1151A               | The neodymium-gold phase diagram.  Thermodynamic modeling of the nickel-lead-tin system.  Investigation of the phase equilibria in the Sn-Bi-In alloy sys-   | 1169-1176A<br>1481-1494A |
| Theoretical analyses and numerical calculation.  Particulate composites. Thermal properties  | 1153-1157A               | tem.  Experimental and thermodynamic investigation of the Ni-Al-Mo system.   | 1503-1515A<br>1785-1795A |
| Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  | 2875-2884A               | Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems.  Partial Fe-Ti alloy phase diagrams at high pressure.   | 2409-2418A<br>3009-3011A |
| Passivation, Alloying effects Surface oxide and the role of magnesium during the sintering of aluminum.  | 457-463A                 | Phase separation<br>Ordering transformation and spinodal decomposition in Au-Ni<br>alloys.   | 707-716A                 |
| Passivation, Environmental effects The effect of water vapor on the oxidation of alloys that develop alumina scales for protection.  | 2905-2913A               | Phase stability, Heating effects Stabilization and two-way shape memory effect in Cu-Al-Ni single crystals.  | 493-499A                 |
| Pearlite Microstructure-property relations in as-extruded ultrahigh-car-   | 1559-1568A               | Phase stability, Size effects  Determination of the critical nucleus size of precipitates using the macroscopic composition gradient method.   | 2783-2789A               |
| bon steels.  | 1333-1300A               | The state of the s |                          |

| Photocatalysis Photocatalytic reduction of selenate and selenite solutions using TiO <sub>2</sub> powders.  | 15-20B                   | Plasma processing Improvement of hardness and resistance of oxidation by electric arc alloying on ferritic steels.   | 3263-3265A |
|---|--------------------------|--|------------|
|   |                          | Plastic deformation  |            |
| Physical chemistry Thermodynamics of iron oxide in Fe <sub>x</sub> O-dilute CaO+Al <sub>2</sub> O <sub>3</sub> +MgO+Fe <sub>x</sub> O slags at 1873K.   | 419-427B                 | Observations of grain-boundary sliding and surface topogra-<br>phy in an 8090 Al alloy after uniaxial and biaxial superplastic   | 50.044     |
| Thermodynamics of surfaces and adsorption in the Fe-S, Fe-<br>N, and Fe-S-N systems at 1823K.   | 429-433B                 | deformation.  Microstructure and mechanisms of cyclic deformation in alumi-  | 53-64A     |
| Thermodynamic aspects of steel reoxidation behavior by the ladle slag system of CaO-MgO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -Fe <sub>1</sub> O-MnO-P <sub>2</sub> O <sub>5</sub> . | 435-442B                 | num single crystals at 77K. II. Edge dislocation dipole<br>heights.  | 777-779A   |
| Model prediction of thermodynamic properties of Co-Fe-Ni-S  |                          | Deformation behavior of silicon.  Solutionizing effects on deformation-induced phase transfor-   | 1465-1479A |
| mattes.  A thermodynamic study of BaO-BaF <sub>2</sub> -Cr <sub>2</sub> O <sub>3</sub> system fluxes  | 443-450B                 | mations in 2014 aluminum composite.  | 2539-2545A |
| used for dephosphorization of chromium-containing iron melts.   | 451-457B                 | Plastic deformation, Composition effects Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-   |            |
| Thermodynamics of Ca-Ga alloys.   | 459-464B                 | tions.   | 123-132A   |
| The rate of reaction of solid iron with oxidized "FeO"-CaO-<br>SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> slags at 1360°C—the chemical diffusivity of iron                                |                          | Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.   | 857-867A   |
| oxide.  A thermodynamic database for copper smelting and convert-   | 465-472B                 | Mechanical behavior of Al-Li/SiC composites. III. Microme-<br>chanical modeling.   | 869-878A   |
| ing.  Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of  | 661-669B                 | Finite-element method simulation of effects of microstructure,<br>stress state, and interface strength on flow localization and<br>constraint development in Nb/Cr <sub>2</sub> Nb in situ composites. | 3239-3251A |
| Al <sub>2</sub> O <sub>3</sub> , Fe <sub>t</sub> O, and basicity in the sinter ore.<br>High-temperature phase relations and thermodynamics in the   | 671-683B                 | Plastic deformation, High temperature effects  |            |
| iron-titanium-oxygen system.  | 695-705B                 | High-temperature deformation behavior of NiAl(Ti) solid-solu-<br>tion single crystals.   | 587-600A   |
| High-temperature phase relations and thermodynamics in the<br>silver-tin-sulfur system.   | 707-714B                 | Plastic deformation, Microstructural effects   |            |
| Investigation of the surface of the liquidus of the Fe-Ni-S system at X <sub>s</sub> <0.51.   | 715-722B                 | The effect of grain size and temperature on the superplastic<br>deformation behavior of a 7075 Al alloy.   | 2037-2047A |
| Erratum:"Model prediction of thermodynamic properties of Co-  |                          | Hot working of Ti-6Al-4V via equal channel angular extrusion.  | 2473-2481A |
| Fe-Ni-S mattes".  Effect of heat and mass transfer on the thermal decomposition   | 831B                     | Plastic deformation, Temperature effects Influence of the temperature on the plastic deformation in TiAl.  | 2865-2873A |
| of SrCO <sub>3</sub> compacts.  A study of the sulfide capacities of iron-oxide containing slags.   | 901-908B<br>909-920B     | Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.   | 2989-2997A |
| Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.  The surface tension of molten aluminum and Al-Si-Mg alloy                               | 921-925B                 | Plastic flow   | 2303-2331A |
| under vacuum and hydrogen atmospheres. Thermodynamic modeling of lead distribution among matte,   | 1027-1032B               | Bauschinger effect and multiaxial yield behavior of stress-<br>reversed mild steel.  | 3069-3078A |
| slag, and liquid copper.  Solubility of carbon in CaO-B <sub>2</sub> O <sub>3</sub> and BaO-B <sub>2</sub> O <sub>3</sub> slags.  | 1033-1044B<br>1045-1052B | Plastic flow, Composition effects Finite-element method simulation of effects of microstructure,   |            |
| Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure. Thermodynamics of nucleation and supersaturation for the alu-       | 1053-1063B               | stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  | 3239-3251A |
| minum-deoxidation reaction in liquid iron.<br>Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ).  | 1065-1074B<br>1075-1081B | Plastic flow, Microstructural effects  Effect of initial microstructure on plastic flow and dynamic glob-<br>ularization during hot working of T-6Al-4V.   | 3219-3229A |
| A self-consistent model for predicting interaction parameters in multicomponent alloys.   | 3099-3102A               | Plasticity   |            |
| Evaluation of interaction parameters in metallic solutions by the isoactivity method.   | 3103-3110A               | Deformation bands, the LEDS theory, and their importance in<br>texture development. II. Theoretical conclusions.   | 2391-2401A |
| Physical simulation   |                          | A general approach for predicting the drawing fracture load<br>and limit drawing ratio of an axisymmetric drawing process.   | 2619-2627A |
| Model study on mixing and mass transfer in ferroalloy refining processes.  A mathematical model for the dynamic behavior of melts sub-  | 231-239B                 | Plasticity, Composition effects Plasticity of continuous fiber-reinforced metals.  | 1843-1866A |
| jected to electromagnetic forces. II. Measurement of surface<br>waves and comparison with predictions of the mathematical<br>model.   | 331-339B                 | Plasticity, Processing effects Low-cycle dwell-time fatigue in Ti-6242.  | 2383-2389A |
| Spout eyes formed by an emerging gas plume at the surface of  |                          | Plasticity, Temperature effects  |            |
| a slag-covered metal melt.  A new hot-tearing criterion.  | 411-418B<br>449-455A     | Dislocations, kink bands, and room-temperature plasticity of<br>Ti <sub>3</sub> SiC <sub>2</sub> .   | 1727-1738A |
| Numerical calculation of the permeability in a dendritic mushy zone.  | 613-622B                 | Plating baths Characteristics of continuous-galvanizing baths.   | 144-148B   |
| Effects of surface flow control on fluid flow phenomena and<br>mixing time in a bottom blown bath.  | 631-637B                 | Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.  | 437-448A   |
| Investigation of transient fluid flow and heat transfer in a con-<br>tinuous casting tundish by numerical analysis verified with  |                          | Studies of the morphology of the Al-rich interfacial layer formed  |            |
| nonisothermal water model experiments.  Erratum to "Numerical calculation of the permeability in a den-   | 979-985B                 | during the hot dip galvanizing of steel sheet.  Platinum. Diffusion  | 681-695A   |
| dritic mushy zone".  Dendritic growth tip velocities and radii of curvature in micro-   | 1107B                    | Influence of annealing on depth distributions and microstruc-<br>ture of ion-implanted Ti6Al4V.  | 2121-2127A |
| gravity.  Physical vapor deposition   | 3177-3190A               | Platinum, Dopants  The effect of ion implanting on hydrogen entry into metals.   | 1535-1540A |
| Mechanism of spallation in platinum aluminide/electron beam<br>physical vapor-deposited thermal barrier coatings.<br>Mathematical modeling of a melt pool driven by an electron                 | 427-435A                 | Platinum, Recovering Preparation of ammonium chloroplatinate by a precipitation stripping of Pt(IV)-loaded Alamine 336 or TBP.   | 197-203B   |
| beam.  Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.  | 515-525B<br>799-806A     | Platinum base alloys, Coatings<br>Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating  |            |
| Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties.      | 2931-2939A               | on a desulfurized Ni-base superalloy.  Platinum compounds, Coatings  Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating   | 2679-2687A |
| Pig iron, Reactions (chemical) Evaluation of a process that uses phosphate additions to   |                          | on a desulfurzed Ni-base superalloy.  Poissons ratio, Temperature effects  | 2679-2687A |
| upgrade titania slag.  Pipelines, Mechanical properties The influence of religing practice on noteh touchage and touch  | 823-826B                 | Temperature and composition dependence of the elastic constants of Ni <sub>3</sub> Al.   | 2403-2408A |
| The influence of rolling practice on notch toughness and tex-<br>ture development in high-strength linepipe.  | 3045-3054A               | Pole figures Prediction of yield surfaces of textured sheet metals.  | 377-386A   |

| Use of microstructural statistics in predicting polycrystalline material properties.  | 969-979A   | Precipitation<br>Precipitation of an intermetallic phase with Pt <sub>2</sub> Mo-type struc-<br>ture in alloy 625.   | 41-52A     |
|---|------------|--|------------|
| Polishes, Reactions (chemical) Extraction and mutual separation of rare earths from used pol-   |            | A solution chemistry approach to the study of rare earth ele-<br>ment precipitation by oxalic acid.  | 189-195B   |
| ishes by chemical vapor transport.  Polishing (finishing)   | 45-51B     | Preparation of ammonium chloroplatinate by a precipitation<br>stripping of Pt(IV)-loaded Alamine 336 or TBP.   | 197-203B   |
| Extraction and mutual separation of rare earths from used pol-  | 45 54D     | An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.   | 501-512A   |
| ishes by chemical vapor transport.  Pollution abatement   | 45-51B     | Secondary carbide precipitation in a directionally solidified  |            |
| Greenhouse gases and the metallurgical process industry.  | 841-856B   | cobalt-base superalloy.  Characterization and modeling of the precipitation of the sigma   | 513-520A   |
| Sustainability: The materials role.  Porosity   | 895-908A   | phase in Udimet 720 and Udimet 720LI.  Study of precipitation kinetics in a super purity Al-0.8% Mg-   | 521-533A   |
| Fatigue and fracture of porous steels and Cu-infiltrated porous   | 005 0044   | 0.9% Si alloy using differential scanning calorimetry.  The precipitation of hematite from ferric chloride media at  | 879-884A   |
| steels.  Effect of interactions between bubbles and graphite particles in   | 325-334A   | atmospheric pressure.  | 993-1001B  |
| copper alloy melts on microstructure formed during centrifu-<br>gal casting. I. Theoretical analysis.   | 361-367B   | Precipitate-induced plastic anisotropy: explicit solutions of the<br>plastic anisotropy due to plate-shaped precipitates.  | 1283-1288A |
| Effect of interactions between bubbles and graphite particles in<br>copper alloy melts on microstructure formed during centrifu-              |            | Dendritic morphology observed in the solid-state precipitation<br>in binary alloys.  | 1529-1534A |
| gal casting. II. Experiments.  Microstructural effects on high-cycle fatigue-crack initiation in  | 369-373B   | Prediction and characterization of variant electron diffraction patterns for $\gamma''$ and $\delta$ precipitates in an Inconel 718 alloy.                                     | 2297-2303A |
| A356.2 casting alloy.   | 2659-2666A | Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys during aging in the single $\alpha$ field.   | 2591-2598A |
| Porosity, Alloying effects The role of iron in the formation of porosity in Al-Si-Cu-based  |            | Determination of the critical nucleus size of precipitates using<br>the macroscopic composition gradient method.   | 2783-2789A |
| casting alloys. I. Initial experimental observations.   | 1643-1650A | Precipitation, Coating effects   | 2/03-2/03A |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. II. A phase-diagram approach.                                 | 1651-1655A | Characterization of the W <sub>2</sub> C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.   | 1913-1921A |
| The role of iron in the formation of porosity in Al-Si-Cu-based<br>casting alloys. III. A microstructural model.                              | 1657-1662A | Precipitation, Deformation effects   | 1010 10277 |
| Porosity, Pressure effects  | 0440 04504 | Effect of cold rolling on the precipitation behavior of $\delta$ phase in Inconel 718.   | 31-40A     |
| Pore nucleation in solidifying high-purity copper.  Porosity, Processing effects  | 2449-2453A | Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite.   | 2539-2545A |
| The mechanism of porous column formation during spray form-   | 1670 16904 | Precipitation, Heating effects   | 2000-20407 |
| ing.<br>Anomalous pore morphologies in liquid-phase-sintered Al-Zn  | 1679-1682A | Microstructural evolution in a 17-4 PH stainless steel after<br>aging at 400°C.  | 345-353A   |
| alloys.  Porosity, Welding effects  | 1682-1685A | Aluminum nitride precipitation and texture development in<br>batch-annealed bake-hardening steel.  | 1663-1673A |
| Fusion zone microstructure and porosity in electron beam welds of an α+β titanium alloy.  | 789-798A   | The effects of preaging treatments on aging kinetics and mechanical properties in AA6111 aluminum autobody sheet. The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic | 1999-2006A |
| Postheating Precipitation sequence in friction stir weld of 6063 aluminum   |            | alloys. I.   | 2305-2323A |
| during aging.   | 3125-3130A | Mechanism of the formation of larnellar $\rm M_{23}C_6$ at and near twin boundaries in austenitic stainless steels.  | 2791-2801A |
| Powder coatings, Phases (state of matter) Characterization of the W <sub>2</sub> C phase formed during the high                               |            | Precipitation, Welding effects Microstructural zones in the primary solidification structure of  | ,          |
| velocity oxygen fuel spraying of a WC+12% Co powder.  Powder coatings, Synthesis  | 1913-1921A | weldment of 9Cr-1Mo steel.  Microstructural evolution of 6063 aluminum during friction-stir  | 161-174A   |
| Nickel monoaluminide coating on ultralow-carbon steel by  | 1005 10104 | welding.   | 2429-2437A |
| reactive sintering.  Powder compacts, Mechanical properties   | 1605-1612A | Precipitation hardening Aging behavior of an Al-Li-Cu-Mg-Zr alloy.   | 741-749A   |
| Hot explosive compaction of Mo-Ti alloys.   | 2483-2489A | Precipitation hardening, Alloying effects  |            |
| Powder compacts, Phase transformations  Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy                                      |            | Effect of cold rolling and annealing on the structure of $\gamma''$ precipitates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.  | 1923-1931A |
| during annealing in the $\alpha$ + $\gamma$ -phase field.   | 751-761A   | Precipitation hardening, Composition effects   |            |
| Powder metallurgy  Considering particle morphology in a constitutive model for  |            | Microstructure and mechanical behavior of spray-deposited<br>high-Li Al-Li alloys.   | 1381-1389A |
| metal powders compaction.  Influence of cold rolling and strain rate on plastic response of   | 1159-1162A | Precipitation hardening alloys, Mechanical properties Low-cycle fatigue crack initiation and break in strain-life curve  |            |
| powder metallurgy and chemical vapor deposition rhenium.  | 2641-2648A | of Al-Li 8090 alloy.   | 887-890A   |
| Powder metallurgy parts, Mechanical properties  Fatigue and fracture of porous steels and Cu-infiltrated porous                               |            | Precipitation hardening alloys, Phase transformations<br>Study of precipitation kinetics in a super purity Al-0.8% Mg-   |            |
| steels.   | 325-334A   | 0.9% Si alloy using differential scanning calorimetry.   | 879-884A   |
| Powder spraying Characterization of the W <sub>2</sub> C phase formed during the high   |            | Precipitation hardening alloys, Structural hardening<br>Aging behavior of an Al-Li-Cu-Mg-Zr alloy.   | 741-749A   |
| velocity oxygen fuel spraying of a WC+12% Co powder.  | 1913-1921A | Precipitation hardening steels, Mechanical properties  | 1000 10001 |
| Precipitates The effects of grain-refining precipitates on the development of   | 00.4444    | Growth of small fatigue cracks in PH 13-8 Mo stainless steel.  Precipitation hardening steels, Phase transformations   | 1289-1300A |
| toughness in 4340 steel.  Precipitate-induced plastic anisotropy: explicit solutions of the   | 93-114A    | Microstructural evolution in a 17-4 PH stainless steel after aging at 400°C.   | 345-353A   |
| plastic anisotropy due to plate-shaped precipitates.  Prediction and characterization of variant electron diffraction                         | 1283-1288A | An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.   | 501-512A   |
| patterns for $\gamma''$ and $\delta$ precipitates in an Inconel 718 alloy.<br>Microstructure and texture effect on the thermal expansion of a | 2297-2303A | Precipitation heat treatment   | 501-512A   |
| variously aged polycrystalline superalloy IN738LC.  | 2803-2808A | Influence of secondary precipitates and crystallographic orien-<br>tation on the strength of single crystals of a Ni-based super-  |            |
| Precipitates, Crystal growth Precipitation of an intermetallic phase with Pt <sub>2</sub> Mo-type struc-                                      |            | alloy.   | 1249-1259A |
| ture in alloy 625.<br>Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys   | 41-52A     | Precipitation heat treatment, Welding effects Precipitation sequence in friction stir weld of 6063 aluminum  |            |
| during aging in the single $\alpha$ field.  | 2591-2598A | during aging.  | 3125-3130A |
| Precipitates, Welding effects Microstructural evolution of 6063 aluminum during friction-stir   |            | Preferred orientation Thermal expansion of morphologically textured short-fiber  | 000 010    |
| welding.  | 2429-2437A | composites.  | 203-212A   |

| Prestraining   |                          |   | Volume 50                     |
|--|--------------------------|---|-------------------------------|
| Prestraining Yield behavior of a mild steel after prestraining and aging   |                          | Thermodynamics and phase equilibria involving the spinel solid solution Fe <sub>x</sub> Mg <sub>1-x</sub> Cr <sub>2</sub> O <sub>4</sub> .  | 865-871B                      |
| under reversed stress.  Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining.                                | 411-416A<br>1327-1331A   | Reduction of iron-silicon-oxysulfide by CO gas injection.<br>Nonisothermal gravimetric investigation on kinetics of reduc-<br>tion of magnesia by aluminum.   | 873-875B<br>1003-1008B        |
| Printed circuits, Surface finishing Electrochemical interfacial phenomena under microgravity. I.   |                          | Kinetics of oxychlorination of magnesium oxide.<br>The effect of MgO on liquidus temperatures of fayalite slags.  | 1009-1015B<br>1017-1026B      |
| Anodic dissolution of copper in drop shaft.  Probes, Coating   | 99-105B                  | Quenching (cooling)  Fatigue and fracture of porous steels and Cu-infiltrated porous steels.  | 325-334A                      |
| Nonstationary hot wire method with silica-coated probe for<br>measuring thermal conductivities of molten metals.   | 1971-1979A               | Analysis of temperature and microstructure in the quenching of<br>steel cylinders.  | 815-822B                      |
| Probes, Development Development and calibration of a Karman vortex probe for measurement of molten-steel velocities.  Probes, Magnetic properties                        | 53-59B                   | Quenching and tempering  The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.  Creep-rupture behavior of forged, thick section 9Cr-1Mo ferritic         | 2419-2428A                    |
| Toward a probe for velocity measurement in molten metals at high temperatures.   | 623-630B                 | steel.  Radioactive waste   | 2825-2834A                    |
| Process control Characteristics of continuous-galvanizing baths.   | 144-148B                 | Preparation and physical characteristics of a lithium-beryllium-<br>substituted fluorapatite.   | 147-153A                      |
| Erratum: Investigation of inclusion re-entrainment from the<br>steel-slag interface.   | 149B                     | Rapid solidification  |                               |
| Optimizing the operation of straight-grate iron-ore pellet indura-<br>tion systems using process models.   | 803-813B                 | Closure-affected fatigue crack propagation behaviors of pow-<br>der metallurgy-processed Al-Li alloys in various environ-   |                               |
| Process parameters   |                          | ments. Superheating behavior of NiAl: Authors' reply.   | 2097-2102A<br>3265A           |
| Strategies for optimal operation of the tellurium electrowinning process.  | 5-13B                    | Rare earth metals, Binary systems The neodymium-gold phase diagram.   | 1169-1176A                    |
| Protective coatings, Chemical analysis Distribution of aluminum in hot-dip galvanized coatings.  | 3031-3044A               | Rare earth metals, Recovering Extraction and mutual separation of rare earths from used pol-  |                               |
| Protective coatings, Corrosion  Protection of beryllium metal against microbial influenced corrosion using silane self-assembled monolayers.                             | 2129-2134A               | ishes by chemical vapor transport.  A solution chemistry approach to the study of rare earth element precipitation by oxalic acid.  | 45-51B<br>189-195B            |
| Protective coatings, Crystal growth Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by                  | 1047-1051A               | Reaction kinetics A method for extracting phase change kinetics from dilation for multistep transformations: austenitization of a low carbon  |                               |
| hydride vapour phase epitaxy.  Protective coatings, Diffusion  | 1047-1051A               | steel.  Activity coefficient of nickel oxide in BaO-based slags.  Studies on the chlorination of zircon. I. Static bed investiga-   | 107-117B<br>143-144B          |
| Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.  Protective coatings, Irradiation                    | 799-806A                 | tions.  A study of the reduction rate of FeO in slag by solid carbon.  Kinetics and mechanism of electroless copper deposition at   | 205-213B<br>215-221B          |
| Effect of flux addition on the microstructure and hardness of<br>TiC-reinforced ferrous surface composite layers fabricated by<br>high-energy electron beam irradiation. | 3131-3141A               | moderate-to-high copper ion and low-to-moderate formalde-<br>hyde concentrations.  Kinetics of simultaneous reactions between liquid iron-carbon  | 223-229B                      |
| Protective coatings, Oxidation<br>Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating  |                          | alloys and slags containing MnO.<br>Influence of pellet composition and structure on carbothermic   | 279-286B                      |
| on a desulfurized Ni-base superalloy.  Pseudoelasticity  | 2679-2687A               | reduction of silica.<br>Simultaneous oxidation and sigma-phase formation in a stain-<br>less steel.   | 295-306B<br>355-362A          |
| Strain dependence of pseudoelastic hysteresis of NiTi.<br>Pseudoelastic behavior of a CuAlNi single crystal under uniax-<br>ial loading.                                 | 1275-1282A<br>1933-1943A | Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas.  | 375-381B                      |
| Pulleys, Mechanical properties Analysis and prevention of cracking phenomenon occurring  | 1000 10101               | Chlorination and carbochlorination of magnesium oxide.<br>Titanium powder prepared by magnesiothermic reduction of<br>Ti <sup>2+</sup> in molten salt.  | 383-391B<br>403-410B          |
| during cold forging of two AISI 1010 steel pulleys.  Purification  | 81-92A                   | The rate of reaction of solid iron with oxidized "FeO"-CaO-<br>SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> slags at 1360°C—the chemical diffusivity of iron                                    |                               |
| Simulation of the removal of arsenic during the roasting of cop-<br>per concentrate.   | 393-401B                 | oxide.  An analytical electron microscopy study of paraequilibrium cementite precipitation in ultra-high-strength steel.  | 465-472B<br>501-512A          |
| Selective removal of iron contaminations from zinc-chloride<br>melts by cementation with zinc.   | 607-611B                 | Characterization and modeling of the precipitation of the sigma<br>phase in Udimet 720 and Udimet 720L1.  | 521-533A                      |
| Purity, Processing effects Strategies for optimal operation of the tellurium electrowinning process.   | 5-13B                    | Chlorination of chalcopyrite concentrates.  A study of chromite carbochlorination kinetics.  Evaluation of a process that uses phosphate additions to   | 567-576B<br>577-587B          |
| Pyrolysis Effect of heat and mass transfer on the thermal decomposition  |                          | upgrade titania slag.<br>Interaction between nonstoichiometric titanium carbide and Fe<br>C alloys.   | 823-826B<br>-<br>857-863B     |
| of SrCO <sub>3</sub> compacts.  Pyrometallurgy   | 901-908B                 | Experimental evidence for electrochemical nature of the reac-<br>tion between iron oxide in calcia-silica-alumina slag and car-   |                               |
| Experimental study of phase equilibria in the system PbO-<br>ZnO-SiO <sub>2</sub> .  | 21-27B                   | bon in liquid iron.  Study of precipitation kinetics in a super purity Al-0.8% Mg-  | 877-889B                      |
| Thermodynamics of TiO <sub>x</sub> in blast furnace-type slags.<br>Extraction and mutual separation of rare earths from used polishes by chemical vapor transport.       | 29-43B<br>45-51B         | 0.9% Si alloy using differential scanning calorimetry.<br>Kinetics of homogeneous martensitic nucleation in iron-based<br>alloys.   | 879-884A<br>884-887A          |
| Studies on the chlorination of zircon. I. Static bed investiga-<br>tions.  | 205-213B                 | Nonisothermal gravimetric investigation on kinetics of reduc-<br>tion of magnesia by aluminum.  | 1003-1008B                    |
| A study of the reduction rate of FeO in slag by solid carbon.<br>Kinetics of chlorination of zirconia in mixture with petroleum<br>coke by chlorine gas.                 | 215-221B<br>375-381B     | Kinetics of oxychlorination of magnesium oxide.<br>Thermodynamic modeling of lead distribution among matte,<br>slag, and liquid copper.   | 1009-1015B<br>1033-1044B      |
| Chlorination and carbochlorination of magnesium oxide.<br>Simulation of the removal of arsenic during the roasting of cop-   | 383-391B                 | A process model for the microstructure evolution in ductile cas<br>iron. I. The model.  | t<br>1053-1068A               |
| per concentrate.  Titanium powder prepared by magnesiothermic reduction of Ti <sup>2+</sup> in molten salt.  | 393-401B<br>403-410B     | A process model for the microstructure evolution in ductile cas<br>iron. II. Applications of the model.<br>Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ). | t<br>1069-1079A<br>1075-1081B |
| Chlorination of chalcopyrite concentrates.  A study of chromite carbochlorination kinetics.  | 567-576B<br>577-587B     | Triggering steam explosions of single drops of a molten ferro-<br>silicon alloy with a simple encapsulated mechanical impactor  |                               |
| Thermodynamics of the miscibility gap in the Ag-Se system.<br>The effect of Al <sub>2</sub> O <sub>3</sub> on liquidus temperatures of fayalite slags.                   | 589-595B<br>597-605B     | A study on the kinetic process of reaction synthesis of TiC. I.<br>Experimental research and theoretical model.   | 1147-1151A                    |

| 1000  |                          | oen propagating  | Syllinosis               |   |
|---|--------------------------|--|--------------------------|---|
| A study on the kinetic process of reaction synthesis of TiC. II.<br>Theoretical analyses and numerical calculation.<br>Investigation of microstructural coarsening in Sn-Pb alloys. | 1153-1157A<br>1541-1547A | Rods, Casting A three-dimensional cellular automation-finite element model for the prediction of solidification grain structures.  | 3153-3165A               |   |
| Mechanism of surface modification of the Ti-6Al-4V alloy using<br>a gas tungsten arc heat source.   | 1597-1603A               | Rolling Solutionizing effects on deformation-induced phase transformations in 2014 aluminum composite.   | 2520 25454               |   |
| Reaction kinetics, Deformation effects Effect of cold rolling on the precipitation behavior of $\delta$ phase in  |                          | Rolling mill rolls, Mechanical properties  | 2539-2545A               |   |
| Inconel 718. Reaction kinetics, Field effects   | 31-40A                   | Composition, microstructure, hardness, and wear properties of<br>high-speed steel rolls.   | 399-409A                 |   |
| Dendritic growth tip velocities and radii of curvature in micro-<br>gravity.  | 3177-3190A               | Rolling texture  |                          |   |
| Reaction kinetics, Heating effects  |                          | On the origin of the R orientation in the recrystallization tex-<br>tures of aluminum alloys.  | 1517-1527A               |   |
| Influence of the Mn content on the kinetics of austempering transformation in compacted graphite cast iron.   | 2745-2752A               | The influence of rolling practice on notch toughness and tex-<br>ture development in high-strength linepipe.   | 3045-3054A               |   |
| Reaction kinetics, Pressure effects   | 2145-2132A               | Room temperature   |                          |   |
| Partial Fe-Ti alloy phase diagrams at high pressure.  | 3009-3011A               | Indentation power-law creep of high-purity indium.  A fine γ'+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3  | 601-610A                 |   |
| Reaction mechanisms  A solution chemistry approach to the study of rare earth ele-  |                          | wt.% Ti-0.2 wt.% C and its influence on high-temperature<br>tensile properties.  | 1495-1501A               |   |
| ment precipitation by oxalic acid.  | 189-195B                 | Rupturing, Alloying effects  | 1495-1501A               |   |
| Preparation of ammonium chloroplatinate by a precipitation<br>stripping of Pt(IV)-loaded Alamine 336 or TBP.<br>Kinetics and mechanism of electroless copper deposition at          | 197-203B                 | The effects of Mg microadditon on the mechanical behavior<br>and fracture mechanism of MAR-M247 superalloy at ele-   | 554 5044                 |   |
| moderate-to-high copper ion and low-to-moderate formalde-<br>hyde concentrations.   | 223-229B                 | vated temperatures. Rutile, Reactions (chemical)   | 551-561A                 |   |
| A study of chromite carbochlorination kinetics.  Evaluation of a process that uses phosphate additions to   | 577-587B                 | Evaluation of a process that uses phosphate additions to<br>upgrade titania slag.  | 823-826B                 |   |
| upgrade titania slag. Rate of reduction of Fe <sub>1</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas.  | 823-826B<br>827-829B     | Rutile, Reduction (chemical) Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ).  | 1075-1081B               |   |
| Experimental evidence for electrochemical nature of the reac-<br>tion between iron oxide in calcia-silica-alumina slag and car-   |                          | Sandblasting   | 1075-10616               |   |
| bon in liquid iron.   | 877-889B                 | Erosion of SS41 steel by sand blasting.  | 941-948A                 |   |
| A study of the sulfide capacities of iron-oxide containing slags.<br>The precipitation of hematite from ferric chloride media at  | 909-920B                 | Sandwich construction, Forging Open-die forging of structurally porous sandwich panels.  | 2689-2699A               |   |
| atmospheric pressure.  Nonisothermal gravimetric investigation on kinetics of reduc-  | 993-1001B                | Sapphire, Composite materials  | 2003-2033A               |   |
| tion of magnesia by aluminum.   | 1003-1008B               | Processing copper and silver matrix composites by electroless plating and hot pressing.  | 1110 11264               |   |
| Kinetics of oxychlorination of magnesium oxide.<br>Carbothermic reduction of ilmenite (FeTiO <sub>3</sub> ) and rutile (TiO <sub>2</sub> ).   | 1009-1015B<br>1075-1081B | Scale (corrosion), Coating effects   | 1119-1136A               |   |
| A study on the kinetic process of reaction synthesis of TiC. I.  Experimental research and theoretical model.  A study on the kinetic process of reaction synthesis of TiC. II.     | 1147-1151A               | Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating on a desulfurized Ni-base superalloy.  | 2679-2687A               |   |
| Theoretical analyses and numerical calculation.   | 1153-1157A               | Scandium, Alloying additive Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu  |                          |   |
| Recrystallization Pattern formation during stationary heating and zone melting  |                          | alloy.   | 1017-1024A               |   |
| recrystallization of a silicon thin film.   | 807-813A                 | Screw dislocations A general numerical method to solve for dislocation configura-  |                          |   |
| On the origin of the R orientation in the recrystallization tex-<br>tures of aluminum alloys.   | 1517-1527A               | tions.   | 2073-2087A               | 1 |
| Recrystallization activation energy in mechanically alloyed<br>oxide-dispersion-strengthened metals measured by differen-   |                          | Secondary hardening  | 1                        |   |
| tial scanning calorimetry.  | 1885-1887A               | An analytical electron microscopy study of paraequilibrium<br>cementite precipitation in ultra-high-strength steel.  | 501-512A                 |   |
| Recrystallization, Heating effects Aluminum nitride precipitation and texture development in batch-annealed bake-hardening steel.   | 1663-1673A               | Sedimentation, Processing effects Settling of multisized clusters of alumina particules in liquid aluminum.  | 241-247B                 |   |
| Recrystallization, Welding effects Microstructural evolution of 6063 aluminum during friction-stir  |                          | Segregations A mathematical model for surface segregation in aluminum  |                          |   |
| welding.  | 2429-2437A               | direct chill casting.  | 135-142B                 |   |
| Recycling Sustainability the materials rale   | 157-170B                 | Simulation of convection and macrosegregation in a large steel<br>ingot.   | 1357-1366A               |   |
| Sustainability: the materials role.  Refining   | 157-1706                 | Grain refinement of aluminum alloys. I. The nucleant and sol-<br>ute paradigms—a review of the literature.   | 1613-1623A               |   |
| Effects of surface flow control on fluid flow phenomena and mixing time in a bottom blown bath.   | 631-637B                 | Grain refinement of aluminum alloys. II. Confirmation of, and a mechanism for, the solute paradigm.  | 1625-1633A               |   |
| Relaxation  | 031-03/B                 | Macrosegregation caused by thermosolutal convection during   |                          |   |
| Fifty-year study of grain-boundary relaxation.  | 2267-2295A               | directional soldification of Pb-Sb alloys.  A unified model of microsegregation and coarsening.  | 2167-2171A<br>2183-2189A |   |
| Residual stress The influence of internal stresses on the fracture toughness of   |                          | Segregations, Diffusion effects Approximate models of microsegregation with coarsening.  | 3016-3019A               |   |
| α/β titanium alloys.  | 2853-2863A               | Segregations, Field effects  |                          |   |
| Residual stress, Welding effects Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of                                   |                          | Suppression of channel convection in solidifying Pb-Sn alloys via an applied magnetic field.   | 1809-1815A               |   |
| Waspaloy.   | 1797-1808A               | Selenium, Binary systems  Thermodynamics of the miscibility gap in the Ag-Se system.   | 589-595B                 |   |
| Resistivity, Processing effects Processing copper and silver matrix composites by electroless plating and hot pressing.   | 1119-1136A               | Selenium, Extraction Photocatalytic reduction of selenate and selenite solutions   | 15 20P                   |   |
| Retained austenite  |                          | using TiO <sub>2</sub> powders.  Selenium compounds, Reduction (chemical)  | 15-20B                   |   |
| Deformation of metastable austenite and resulting properties<br>during the ausform-finishing of 1% carburized AISI 9310<br>steel gears.   | 183-193A                 | Photocatalytic reduction of selenate and selenite solutions using TiO <sub>2</sub> powders.  | 15-20B                   |   |
| Reviews   |                          | Self-propagating synthesis Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-contain-  |                          |   |
| Deformation behavior of silicon.  | 1465-1479A               | ing alloys.  | 171-188B                 |   |
| Rhenium, Rolling Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  | 2641-2648A               | Thermal analysis of self-propagating high-temperature reac-<br>tions in titanium, boron, and aluminum powder compacts.<br>Field-activated combustion synthesis of titanium aluminides. | 781-788A<br>1101-1108A   |   |
|   |                          |  |                          |   |

#### Semi-solid processing

| Nickel monoaluminide coating on ultralow-carbon steel by   | 1605-1612A                             | Silicides, Mechanical properties  |                          |
|--|--|---|--------------------------|
| Hot explosive compaction of Mo-Ti alloys.  | 2483-2489A                             | Dislocations, kink bands, and room-temperature plasticity of $Ti_3SiC_2$ .<br>Environmental embrittlement caused by hydrogen for interme-                         | 1727-1738A               |
| Semi-solid processing Mechanical behavior of aluminum matrix composite during extrusion in the semisolid state.  | 1137-1146A                             | tallic compounds: preliminary model of ductility reduction.  Silicides, Thin films  | 3089-3097A               |
| Semiconductors, Coating Rapid epitaxial growth of conducting and insulating III-V compounds on (001), (110), (111)A, and (311)B surfaces by                  |  | Development of a diffusion barrier layer for silicon and carbon in molybdenum—a physical vapor deposition approach.  Silicon. Composite materials                 | 799-806A                 |
| hydride vapour phase epitaxy.  Separation  | 1047-1051A                             | Reactive infiltration of silicon melt through microporous amorphous carbon preforms.  | 933-944B                 |
| Recycling of aluminum matrix composites.  Study of electromagnetic separation of nonmetallic inclusions from aluminum melt.                                  | 839-844A<br>2979-2988A                 | Silicon, Crystal growth  Dendrite growth processes of silicon and germanium from highly undercooled melts.  | 1333-1339A               |
| Serrated yielding Computer simulation of annealing and recovery effects on ser-  | 207 2074                               | Discussion of "Dendrite growth processes of silicon and ger-<br>manium from highly undercooled melts" and authors' reply.   | 3011-3016A               |
| rated flow in some Al-Mg alloys.  On the occurrence of dynamic strain aging in near-alpha alloy Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si.                       | 387-397A<br>2547-2549A                 | Silicon, Diffusion Growth of silicides and interdiffusion in the Mo-Si system. Multicomponent diffusion simulation based on finite elements.                      | 545-550A<br>2575-2582A   |
| Shape memory Magnetic transformation of Ni <sub>2</sub> AlMn Heusler-type shape memory alloys.   | 2721-2723A                             | Silicon, Mechanical properties Deformation behavior of silicon.   | 1465-1479A               |
| Shape memory, Alloying effects   | 2599-2604A                             | Silicon, Ternary systems Thermodynamic assessment of the Al-Fe-Si system.   | 1081-1095A               |
| Shape memory alloys, Phase transformations<br>Stabilization and two-way shape memory effect in Cu-Al-Ni sin-   |  | Experimental investigations and thermodynamic descriptions of the Ni-Si and C-Ni-Si systems.  | 2409-2418A               |
| gle crystals. Microstructure and martensitic transformations in a dual-phase $\alpha/\beta$ Cu-Zn alloy.   | 493-499A<br>729-739A                   | Silicon, Thin films Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film.  | 807-813A                 |
| Strain dependence of pseudoelastic hysteresis of NiTi.   | 1275-1282A<br>2599-2604A<br>2753-2756A | Silicon carbide, Composite materials  Thermal expansion of morphologically textured short-fiber composites.   | 203-212A                 |
| Shear modulus, Temperature effects Temperature and composition dependence of the elastic con-  | 2130-2130A                             | Observation of fatigue damage process in SiC fiber-reinforced<br>Ti-15-3 composite at high temperature.   | 221-229A                 |
| stants of Ni <sub>3</sub> Al.  | 2403-2408A                             | Effect of in situ material properties on fatigue damage modes in titanium matrix composites.  | 255-266A                 |
| Shear stress, Heating effects Interface characterization of duplex metal-coated SiC fiber- reinforced Ti-15-3 matrix composites.                             | 653-666A                               | Fatigue crack growth in Ti-matrix composites with spatially var-<br>ied interfaces.<br>Elastic shielding during fatigue-crack growth of titanium matrix           | 267-275A                 |
| Sheet metal, Coating Microcracking of flash coatings and its effect on the Zn-Ni coat-   |  | composites.  Evaluation of the MMCLIFE 3.0 code in predicting crack growth  | 277-286A                 |
| ing adhesion of electrodeposited sheet steel.<br>Studies of the morphology of the Al-rich interfacial layer formed   | 437-448A                               | in titanium aluminide composites.<br>Transverse creep of SiC/Ti-6AI-4V fiber-reinforced metal matrix<br>composites.   | 287-299A<br>301-306A     |
| during the hot dip galvanizing of steel sheet.  Sheet metal, Metal working   | 681-695A                               | Degradation of residual strength in SCS-6/TI-15-3 due to fully reversed fatigue.  | 307-313A                 |
| Prediction of yield surfaces of textured sheet metals.  heet metal, Microstructure  Ultrasonic measurement of the Kearns texture factors in Zir-             | 377-386A                               | Fundamental aspects of creep in metal matrix composites.<br>Interface characterization of duplex metal-coated SiC fiber-<br>reinforced Ti-15-3 matrix composites. | 315-324A<br>653-666A     |
| caloy, zirconium, and titanium.  | 1981-1988A                             | Monkman-Grant analysis of creep fracture in dispersion-<br>strengthened and particulate-reinforced aluminum.  | 829-838A                 |
| Shock-induced reaction synthesis of isomorphous (Cu-Ni) and immiscible (Cu-Nb) compounds.  | 1367-1379A                             | Recycling of aluminum matrix composites.  Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.                                 | 839-844A<br>845-855A     |
| Shot peening Low-cycle dwell-time fatigue in Ti-6242.  | 2383-2389A                             | Mechanical behavior of Al-Li-SiC composites. II. Cyclic defor-<br>mation.<br>Mechanical behavior of Al-Li/SiC composites. III. Microme-                           | 857-867A                 |
| Shrinkage<br>Modeling the fluid-flow-induced stress and collapse in a den-<br>dritic network.  | 287-293B                               | chanical modeling.<br>Reactive infiltration of silicon melt through microporous amor-   | 869-878A                 |
| Shrinkage, Alloying effects The role of iron in the formation of porosity in Al-Si-Cu-based  | 201-2930                               | phous carbon preforms.  Processing copper and silver matrix composites by electroless plating and hot pressing.   | 933-944B<br>1119-1136A   |
| casting alloys. I. Initial experimental observations.  The role of iron in the formation of porosity in Al-Si-Cu-based                                       | 1643-1650A                             | Mechanical behavior of aluminum matrix composite during<br>extrusion in the semisolid state.  | 1137-1146A               |
| casting alloys. II. A phase-diagram approach. The role of iron in the formation of porosity in Al-Si-Cu-based  | 1651-1655A                             | Fatigue in selectively fiber-reinforced titanium matrix compos-<br>ites.  Effect of fiber spatial arrangement on the transverse strength                          | 2237-2248A               |
| casting alloys. III. A microstructural model.  Shrinkage, Processing effects   | 1657-1662A                             | of titanium matrix composites.  Dry sliding wear behavior of A356-15% SiC <sub>o</sub> composites under   | 2513-2522A               |
| A study on laser sintering of Fe-Cu powder compacts.  Sigma phase, Crystal growth  | 2229-2235A                             | controlled atmospheric conditions.  Wear of Al-based hybrid composites containing BN and SiC  | 2523-2538A               |
| Simultaneous oxidation and sigma-phase formation in a stain-<br>less steel.  Characterization and modeling of the precipitation of the sigma                 | 355-362A                               | particulates. Degradation mechanism of SiC/super $\alpha_2$ composite due to interfacial reaction.  | 2551-2555A<br>2713-2720A |
| phase in Udimet 720 and Udimet 720LI.  Silicates, Reactions (chemical)   | 521-533A                               | Influence of the localized initial plastic deformation on the<br>effective thermomechanical response of metal-matrix com-<br>posites.                             | 2875-2884A               |
| An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> . | 67-74B                                 | Modeling of composite growth in the directed aluminum melt<br>nitridation process.  | 2951-2958A               |
| Silicides, Coatings Oxidation behavior of niobium aluminide intermetallics protected by aluminide and silicide diffusion coatings.                           | 495-504B                               | Tensile properties of duplex metal-coated SiC fiber and tita-<br>nium alloy matrix composites.  Silicon carbide, Reactions (chemical)                             | 3019-3024A               |
| Synthesis and characterizatiion of Ti-Si-C-N films.  Silicides, Composite materials  | 2439-2447A<br>2959-2965A               | Influence of pellet composition and structure on carbothermic reduction of silica.  | 295-306B                 |
| Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils.  |  |   |                          |

| Measurement of liquid permeability in the mushy zones of alu-<br>minum-copper alloys.<br>Casting-chill interface heat transfer during solidification of an                             | 745-750B                 | Spinodal decomposition Ordering transformation and spinodal decomposition in Au-Ni alloys.  | 707-716A         |
|--|--------------------------|---|------------------|
| aluminum alloy.  | 773-778B                 | •   | 707-716A         |
| Pattern formation during stationary heating and zone melting<br>recrystallization of a silicon thin film.  | 807-813A                 | Spray forming  The mechanism of porous column formation during spray forming.   | 1679-1682A       |
| An analytical model for nodular eutectic grain predictions dur-<br>ing solidification.   | 927-932B                 | Sprayed coatings, Crystal growth  |                  |
| A process model for the microstructure evolution in ductile cast iron. I. The model.   | 1053-1068A               | On the mechanism of mushy layer formation during droplet-<br>based processing.  | 527-539B         |
| Dispersion of fine primary inclusions of MgO and   |                          | Sprayed coatings, Phases (state of matter)  |                  |
| ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure.<br>A process model for the microstructure evolution in ductile cast<br>iron. II. Applications of the model. | 1053-1063B<br>1069-1079A | Characterization of the W <sub>2</sub> C phase formed during the high velocity oxygen fuel spraying of a WC+12% Co powder.  | 1913-1921A       |
| Erratum to "Numerical calculation of the permeability in a den-  | 1005-1075A               | Spraying  |                  |
| dritic mushy zone".  Dendrite growth processes of silicon and germanium from   | 1107B                    | Microstructure and mechanical behavior of spray-deposited<br>high-Li Al-Li alloys.  | 1381-1389A       |
| highly undercooled melts.  Simulation of convection and macrosegregation in a large steel  | 1333-1339A               | Sputtered coatings, Mechanical properties   |                  |
| ingot.  High-energy x-ray computed tomography of the progression of  | 1357-1366A               | Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.   | 961-968A         |
| the solidification front in pure aluminum.  Theoretical calculation of nucleation temperature and the undercooling behaviors of Fe-Cr alloys studied with the elec-                    | 1403-1409A               | Sputtered coatings, Microstructure Synthesis and characterization of Ti-Si-C-N films.   | 2439-2447A       |
| tromagnetic levitation method.   | 1827-1833A               | Sputtering  |                  |
| The Alstruc microstructure solidification model for industrial<br>aluminum alloys.   | 2135-2146A               | Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061.   | 2191-2199A       |
| Mathematical modeling of microstructural development in  | 0147 01504               | Synthesis and characterization of Ti-Si-C-N films.  | 2439-2447A       |
| hypoeutectic cast iron.<br>Experimental determination of mushy zone permeability in alu-   | 2147-2158A               | Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils.   | 2959-2965A       |
| minum-copper alloys with equiaxed microstructures.  Effect of the primary phase on grain coarsening in undercooled   | 2455-2462A               | Squeeze casting The effect of Sr and Fe additions on the microstructure and mechanical properties of a direct squeeze cast Al-7Si-0.3Mg   |                  |
| Fe-Co alloys.  | 2941-2949A               | alloy.  | 1341-1356A       |
| The effect of solidification rate on the growth of small fatigue<br>cracks in a cast 319-type aluminum alloy.  | 3055-3068A               | Stainless steels, Refining  |                  |
| A three-dimensional cellular automation-finite element model   |                          | A thermodynamic study of BaO-BaF <sub>2</sub> -Cr <sub>2</sub> O <sub>3</sub> system fluxes   |                  |
| for the prediction of solidification grain structures.   | 3153-3165A               | used for dephosphorization of chromium-containing iron<br>melts.  | 451 457D         |
| Solidification, Alloying effects   |                          |   | 451-457B         |
| The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. I. Initial experimental observations.  | 1643-1650A               | Stampings, Coating  The effects of preaging treatments on aging kinetics and  |                  |
| The role of iron in the formation of porosity in Al-Si-Cu-based  |                          | mechanical properties in AA6111 aluminum autobody sheet.  | 1999-2006A       |
| casting alloys. II. A phase-diagram approach. The role of iron in the formation of porosity in Al-Si-Cu-based casting alloys. III. A microstructural model.                            | 1651-1655A<br>1657-1662A | Steam, Reactions (chemical) Triggering steam explosions of single drops of a molten ferro-  |                  |
|  | 1037-1002A               | silicon alloy with a simple encapsulated mechanical impactor.   | 1083-1088B       |
| Solidification, Composite materials Liquid-solid partition ratios in nickel-base alloys.   | 2173-2181A               | Steels, Casting Development and calibration of a Karman vortex probe for  |                  |
| Role of back-diffusion studied by computer simulation.   | 1635-1641A               | measurement of molten-steel velocities.  Erratum: Investigation of inclusion re-entrainment from the  | 53-59B           |
| Solidification, Field effects Suppression of channel convection in solidifying Pb-Sn alloys  |                          | steel-slag interface.  The challenge of quality in continuous casting processes.  | 149B<br>553-566B |
| via an applied magnetic field.  Discussion of "Particle engulfment and pushing by solidying  | 1809-1815A               | Modeling of inclusion removal in a tundish.<br>Investigation of transient fluid flow and heat transfer in a con-<br>tinuous casting tundish by numerical analysis verified with | 639-654B         |
| interfaces. II. Microgravity experiments and theoretical analy-<br>sis" and authors' reply.  | 1887-1894A               | nonisothermal water model experiments.  | 979-985B         |
| Dendritic growth tip velocities and radii of curvature in micro-   |                          | Three-dimensional modeling of the flow and the interface sur-   | 4005 4405B       |
| gravity.   | 3177-3190A               | face in a continuous casting mold model.  | 1095-1105B       |
| Solidification, Processing effects   |                          | Steels, Coating Microcracking of flash coatings and its effect on the Zn-Ni coat-   |                  |
| The solidification characteristics of laser surface-remelted Fe-<br>12Cr-nC alloys.  | 1817-1826A               | ing adhesion of electrodeposited sheet steel.  Studies of the morphology of the Al-rich interfacial layer formed  | 437-448A         |
| Solution annealing Low-cycle dwell-time fatigue in Ti-6242.  | 2383-2389A               | during the hot dip galvanizing of steel sheet.  | 681-695A         |
|  | 2303-2303A               | Characterization of the W <sub>2</sub> C phase formed during the high<br>velocity oxygen fuel spraying of a WC+12% Co powder.   | 1913-1921A       |
| Solution heat treatment<br>Effect of alloy preheating on the mechanical properties of as-<br>cast Co-Cr-Mo-C alloys.   | 611-620A                 | Steels, Heat treatment  Analysis of temperature and microstructure in the quenching of  | 101010214        |
| Phase transformation of Zn-4Al-3Cu alloy during heat treat-<br>ment.   | 917-923A                 | steel cylinders.  | 815-822B         |
| Solutionizing effects on deformation-induced phase transfor-   |                          | Application of the cluster variation method to ordering in an interstitial solid soution: the γ-Fe[N]/γ'-Fe <sub>4</sub> N <sub>1-x</sub> equilibrium.                          | 1945-1953A       |
| mations in 2014 aluminum composite.  Tensile strength of thermomechanically processed Cu-9Ni-6Sn   | 2539-2545A               | Steels, Machining Rapid thermal processing TiN coatings deposited by chemical   |                  |
| alloys.  Mechanism of the formation of lamellar M <sub>23</sub> C <sub>6</sub> at and near twin boundaries in austenitic stainless steels.   | 2649-2657A<br>2791-2801A | and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties.   | 2931-2939A       |
| Sour gas, Environment  |                          | Steels, Melting   |                  |
| The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.   | 2419-2428A               | Spout eyes formed by an emerging gas plume at the surface of<br>a slag-covered metal melt.  | 411-418B         |
| Spalling, Heating effects  |                          | Steels, Microstructure  |                  |
| Mechanism of spallation in platinum aluminide/electron beam<br>physical vapor-deposited thermal barrier coatings.  | 427-435A                 | Atom probe and transmission electron microscopy investiga-<br>tions of heavily drawn pearlitic steel wire.  | 717-727A         |
| Spheroidal structure, Deformation effects  |                          | Stirring  |                  |
| Atom probe and transmission electron microscopy investiga-<br>tions of heavily drawn pearlitic steel wire.   | 717-727A                 | Height of the spout of a gas plume discharging from a metal melt.   | 655-660B         |
| Spinel, Reactions (chemical)   |                          | Strain aging  |                  |
| Thermodynamics and phase equilibria involving the spinel solid solution $\text{Fe}_x \text{Mg}_{1-x} \text{Cr}_2 \text{O}_4$ .   | 865-871B                 | On the occurrence of dynamic strain aging in near-alpha alloy<br>Ti-5.8AI-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si.   | 2547-2549A       |
|  |                          |   |                  |

| Silicon dioxide, Coatings  Nonstationary hot wire method with silica-coated probe for measuring thermal conductivities of molten metals.  | 1971-1979A                                   | The rate of reaction of solid iron with oxidized "FeO"-CaO-<br>SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> slags at 1360°C—the chemical diffusivity of iron<br>oxide.  | 465-472B                           |
|---|--|---|------------------------------------|
| Silicon dioxide, Composite materials  |  | The effect of $Al_2O_3$ on liquidus temperatures of fayalite slags. A thermodynamic database for copper smelting and convert-   | 597-605B                           |
| The effect of shot particles on the fatigue of Kaowool fiber-rein-<br>forced 339 aluminum.<br>Correlation of tensile strength with fracture modes of KAO-   | 195-201A                                     | ing. Simulation of primary-slag melting behavior in the cohesive zone of a blast furnace, considering the effect of   | 661-669B                           |
| WOOL- and SAFFIL-reinforced 339 aluminum.  The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.  | 815-824A<br>1835-1841A                       | $Al_2O_3$ , $Fe_iO$ , and basicity in the sinter ore.<br>High-temperature phase relations and thermodynamics in the   | 671-683B                           |
| Silicon dioxide, Reactions (chemical)   | 1000-1041A                                   | iron-titanium-oxygen system.<br>Evaluation of a process that uses phosphate additions to<br>upgrade titania slag.   | 695-705B<br>823-826B               |
| Influence of pellet composition and structure on carbothermic reduction of silica.  Rate of reduction of Fe <sub>1</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas.  A study of the sulfide capacities of iron-oxide containing slags.  Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system. | 295-306B<br>827-829B<br>909-920B<br>921-925B | Rate of reduction of Fe <sub>1</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas.  Experimental evidence for electrochemical nature of the reaction between iron oxide in calcia-silica-alumina slag and carbon in liquid iron.  A study of the sulfide capacities of iron-oxide containing slags. | 827-829B<br>877-889B<br>909-920B   |
| Silicon dioxide, Ternary systems  Experimental study of phase equilibria in the system PbO-ZnO-SiO <sub>2</sub> .   | 21-27B                                       | Phase-diagram study for the Al <sub>2</sub> O <sub>3</sub> -CaF <sub>2</sub> -SiO <sub>2</sub> system.  The effect of MgO on liquidus temperatures of fayalite slags.  Thermodynamic modeling of lead distribution among matte,   | 921-925B<br>1017-1026B             |
| Silicon manganese steels, Diffusion Multicomponent diffusion simulation based on finite elements.   | 2575-2582A                                   | slag, and liquid copper.  Slags, Solubility   | 1033-1044B                         |
| Silicon nitride, Composite materials<br>Fabrication and characteristics of AA6061/  | 2000 20074                                   | Quantitative analysis of the relative basicity of CaO and BaO<br>by silver solubility in slags.<br>Solubility of carbon in CaO-B <sub>2</sub> O <sub>3</sub> and BaO-B <sub>2</sub> O <sub>3</sub> slags.   | 689-694B<br>1045-1052B             |
| Si <sub>3</sub> N <sub>4p</sub> composite by the pressureless infiltration technique.   | 2999-3007A                                   | Sliding friction  |                                    |
| Silicon steels, Phase transformations  Bainite transformation temperatures in high-silicon steels.  | 909-916A                                     | Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.  | 2019-2026A                         |
| Silver, Binary systems Thermodynamics of the miscibility gap in the Ag-Se system. The neodymium-gold phase diagram.   | 589-595B<br>1169-1176A                       | Sliding friction, Environmental effects Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under controlled atmospheric conditions.  | 2523-2538A                         |
| Dendritic morphology observed in the solid-state precipitation<br>in binary alloys.   | 1529-1534A                                   | Slip  |                                    |
| Silver, Composite materials Processing copper and silver matrix composites by electroless   |  | High-temperature deformation behavior of an Al-8.4Fe-3.6Ce<br>dispersion-strengthened material.<br>Evidence of void nucleation and growth on planar slip bands in   | 371-376A                           |
| plating and hot pressing.   | 1119-1136A                                   | a Nb-Cr-Ti alloy.   | 579-585A                           |
| Silver, Solubility Quantitative analysis of the relative basicity of CaO and BaO  |  | Slip transfer and dislocation nucleation processes in mul-<br>tiphase ordered Ni-Fe-Al alloys.  | 991-1001A                          |
| by silver solubility in slags.  Silver, Ternary systems High-temperature phase relations and thermodynamics in the  | 689-694B                                     | Slip, Temperature effects  Elastic phase-strain distribution in a particulate-reinforced metal-matrix composite deforming by slip or creep.   | 2989-2997A                         |
| silver-tin-sulfur system. Simulation  | 707-714B                                     | Slip bands, Deformation effects  Deformation bands, the LEDS theory, and their importance in texture development. I. Previous evidence and new observa-   |                                    |
| Simulation of the removal of arsenic during the roasting of cop<br>per concentrate.   | 393-401B                                     | tions.  | 2491-2501A                         |
| Analyses of the dynamic processes of liquid metal filtration.  The Alstruc microstructure solidification model for industrial aluminum alloys.  | 891-900B<br>2135-2146A                       | Smelting A study of the reduction rate of FeO in slag by solid carbon. Thermodynamics of the miscibility gap in the Aq-Se system.   | 215-2218<br>589-595B               |
| Single crystals, Mechanical properties The equilibrium concentration of hydrogen atoms ahead of a   | 2133-2140A                                   | The effect of ${\rm Al}_2{\rm O}_3$ on liquidus temperatures of fayalite slags. A thermodynamic database for copper smelting and convert-   | 597-605B                           |
| mixed mode I-mode III crack tip in single crystal iron.  Microstructure and mechanisms of cyclic deformation in alumi num single crystals at 77K. II. Edge dislocation dipole   | 155-159A<br>i-                               | ing. Rate of reduction of Fe <sub>i</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas. The effect of MgO on liquidus temperatures of fayalite slags.   | 661-669B<br>827-829B<br>1017-1026B |
| heights.  Influence of secondary precipitates and crystallographic orien tation on the strength of single crystals of a Ni-based super-   |  | Softening, Welding effects Quantitative evaluation of softened regions in weld heat- affected zones of 6061-T6 aluminum alloy—characterizing of   |                                    |
| alloy.  | 1249-1259A                                   | the laser beam welding process.   | 2115-2120A                         |
| Sintered compacts, Mechanical properties<br>Combined effects of time and temperature on strength evolu-<br>tion using integral work-of-sintering concepts.  | 465-470A                                     | Solders, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-  | 115-122A                           |
| Sintered compacts, Oxidation Surface oxide and the role of magnesium during the sintering   |  | tions. Time-dependent deformation behavior of near-eutectic 60Sn-<br>40Pb solder.   | 123-132A<br>1301-1313A             |
| of aluminum.  Sintering (powder metallurgy)   | 457-463A                                     | Solders, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  | 1541-1547A                         |
| Surface oxide and the role of magnesium during the sintering of aluminum.  Combined effects of time and temperature on strength evolu-  | 457-463A                                     | Solders, Phases (state of matter) Investigation of the phase equilibria in the Sn-Bi-In alloy sys-  | 1541-154/A                         |
| tion using integral work-of-sintering concepts.  A study on laser sintering of Fe-Cu powder compacts.   | 465-470A<br>2229-2235A                       | tem. Solders, Reactions (chemical)  | 1503-1515A                         |
| Transformation behavior of sintered porous NiTi alloys.  Slab casting, Quality control  | 2753-2756A                                   | Thermodynamic modeling of the palladium-lead-tin system.  Solidification  | 5-18A                              |
| The challenge of quality in continuous casting processes.  Slags. Reactions (chemical)  | 553-566B                                     | Mathematical modeling of copper and brass upcasting.<br>Modeling the fluid-flow-induced stress and collapse in a den-<br>dritic network.  | 75-98B<br>287-293B                 |
| Thermodynamics of TiO <sub>x</sub> in blast furnace-type slags.   | 29-43B                                       | Least-squares adjustment of mathematical model of heat and  |                                    |
|   | 143-144B                                     | mass transfer processes during solidification of binary alloys.<br>On the mechanism of mushy layer formation during droplet-  | 505-513B                           |
| Activity coefficient of nickel oxide in BaO-based slags.  Erratum: Investigation of inclusion re-entrainment from the steel-slag interface.   | 1/00   |   |                                    |
| Erratum: Investigation of inclusion re-entrainment from the<br>steel-slag interface.  Kinetics of simultaneous reactions between liquid iron-carbon   | 149B   | based processing.  Numerical calculation of the permeability in a dendritic mushy   | 527-539B                           |
| Erratum: Investigation of inclusion re-entrainment from the<br>steel-slag interface.  Kinetics of simultaneous reactions between liquid iron-carbon<br>alloys and slags containing MnO.   |  | Numerical calculation of the permeability in a dendritic mushy zone.  | 613-622B                           |
| Erratum: Investigation of inclusion re-entrainment from the<br>steel-slag interface.  Kinetics of simultaneous reactions between liquid iron-carbon   | 1  | Numerical calculation of the permeability in a dendritic mushy  |                                    |

|  |                          | ouperanoys, r mases (state t  | ,                      |
|--|--------------------------|---|------------------------|
| Strain hardening Deformation of metastable austenite and resulting properties during the ausform-finishing of 1% carburized AISI 9310 steel gears.                                     | 183-193A                 | Striations, Deformation effects Observations of grain-boundary sliding and surface topography in an 8090 Al alloy after uniaxial and biaxial superplastic deformation.  | F2 64A                 |
| On the occurrence of dynamic strain aging in near-alpha alloy  | 2547-2549A               | Strontium, Alloying additive  | 53-64A                 |
| Strain hardening, Composition effects Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.   | 123-132A                 | The surface tension of molten aluminum and Al-Si-Mg alloy<br>under vacuum and hydrogen atmospheres.<br>The effect of Sr and Fe additions on the microstructure and<br>mechanical properties of a direct squeeze cast Al-7Si-0.3Mg | 1027-1032B             |
| Strain hardening, Microstructural effects Infuence of martensite content and morphology on tensile and   |                          | alloy.  Strontium compounds, Reduction (chemical)   | 1341-1356A             |
| impact properties of high-martensite dual-phase steels. Influence of grain size on the constitutive response and sub-<br>structure evolution of Monel 400.                             | 1193-1202A<br>1235-1247A | Effect of heat and mass transfer on the thermal decomposition of SrCO <sub>3</sub> compacts.  | 901-908B               |
| Strain rate, Alloying effects Influence of calcium addition on the superplastic-like behavior of extruded Al-Al <sub>3</sub> Ni eutectic alloy.  | 2258-2260A               | Structural steels, Welding Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel.   | 2089-2096A             |
| Strain softening, Composition effects Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.   | 123-132A                 | Sulfur, Reactions (chemical)  Thermodynamics of surfaces and adsorption in the Fe-S, Fe-N, and Fe-S-N systems at 1823K.  Model prediction of thermodynamic properties of Co-Fe-Ni-S   | 429-433B               |
| Stress analysis  |                          | mattes.   | 443-450B               |
| Comparison of three different techniques for measuring the<br>residual stresses in an electron beam-welded plate of<br>Waspaloy.   | 1797-1808A               | Erratum:"Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".  | 831B                   |
| Stress concentration   | 1707 10007               | Sulfur, Ternary systems  High-temperature phase relations and thermodynamics in the   |                        |
| Modeling and measurement of the notched strength of gamma<br>titanium aluminides under monotonic loading.  | 949-959A                 | silver-tin-sulfur system.<br>Investigation of the surface of the liquidus of the Fe-Ni-S sys-   | 707-714B               |
| Stress concentration, Processing effects The effect of shot particles on the fatigue of Kaowool fiber-reinforced 339 aluminum.   | 195-201A                 | tem at $X_s$ <0.51.<br><b>Superalloys, Coating</b> Mechanism of spallation in platinum aluminide/electron beam  | 715-722B               |
| Stress corrosion cracking  |                          | physical vapor-deposited thermal barrier coatings.  Synthesis and cyclic oxidation behavior of a (Ni, Pt)Al coating   | 427-435A               |
| Hydrogen embrittlement, grain boundary segregation, and<br>stress corrosion cracking of alloy X-750 in low- and high-tem-<br>perature water.   | 1570 15064               | on a desulfurized Ni-base superalloy.   | 2679-2687A             |
| Mixed-mode hydrogen-assisted cracking of high-strength steel:<br>the role of cyclic load history.  | 1579-1596A<br>1882-1885A | Superalloys, Crystal growth  Recrystallization activation energy in mechanically alloyed oxide-dispersion-strengthened metals measured by differen- tial scanning calorimetry.  | 1885-1887A             |
| Stress corrosion cracking, Alloying effects Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu alloy.   | 1017-1024A               | Superalloys, Heat treatment   |                        |
| Stress corrosion cracking, Deformation effects   | 1017 102-11              | Evaluation of halide-activated pack boriding of Inconel 722.<br>Development of a heat treatment for a directionally solidified<br>cobalt-base superalloy.   | 670-675A<br>2251-2254A |
| Improvement of the resistance to stress corrosion cracking in austenitic stainless steels by cyclic prestraining.  | 1327-1331A               | Superalloys, Mechanical properties  | 2231-2254A             |
| Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution.   | 3191-3199A               | The effects of Mg microadditon on the mechanical behavior<br>and fracture mechanism of MAR-M247 superalloy at ele-  |                        |
| Stress corrosion cracking, Heating effects The role of heat treating on the sour gas resistance of an X-80 steel for oil and gas transport.  | 2419-2428A               | vated temperatures.  Liquid impact erosion mechanism and theoretical impact stress analysis in TiN-coated steam turbine blade materials.  | 551-561/<br>961-968A   |
| Stress intensity Elastic shielding during fatigue-crack growth of titanium matrix composites.  | 277-286A                 | An intergranular creep crack growth model based on grain<br>boundary sliding.  Influence of secondary precipitates and crystallographic orien-<br>tation on the strength of single crystals of a Ni-based super-                  | 1039-1045A             |
| Stress strain curves Analysis and prevention of cracking phenomenon occurring  |                          | alloy.  Hydrogen embrittlement, grain boundary segregation, and   | 1249-1259A             |
| during cold forging of two AISI 1010 steel pulleys.  Modeling high-temperature stress-strain behavior of cast alu-   | 81-92A                   | stress corrosion cracking of alloy X-750 in low- and high-tem-<br>perature water.   | 1579-1596A             |
| minum alloys.  Yield behavior of a mild steel after prestraining and aging   | 133-146A<br>411-416A     | Effect of small amounts of nitrogen on properties of a Ni-based<br>superalloy.  | 1755-1761A             |
| under reversed stress.  Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.  | 845-855A                 | Modeling solid-particle erosion of ductile alloys.  Superalloys, Metal working  | 1763-1774A             |
| Mechanical behavior of Al-Li-SiC composites. II. Cyclic deformation.   | 857-867A                 | Mathematical modeling of the hot-deformation behavior of<br>superalloy IN718.   | 2701-2712A             |
| Mechanical behavior of Al-Li/SiC composites. III. Microme-<br>chanical modeling.<br>Influence of grain size and stacking-fault energy on deforma-                                      | 869-878A                 | Superalloys, Metallography Transmission x-ray diffraction of single-crystal nickel-base superalloys.  | 1880-1882A             |
| tion twinning in fcc metals.  Growth of small fatigue cracks in PH 13-8 Mo stainless steel.  The effect of Sr and Fe additions on the microstructure and                               | 1223-1233A<br>1289-1300A | Superalloys, Microstructure Deformed microstructure of the single-crystal superalloy  |                        |
| mechanical properties of a direct squeeze cast Al-7Si-0.3Mg alloy.   | 1341-1356A               | NASAIR 100 at 1050°C. Superalloys, Oxidation  | 2843-2852A             |
| Pseudoelastic behavior of a CuAlNi single crystal under uniaxial loading.  Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy  | 1933-1943A               | The effect of water vapor on the oxidation of alloys that develop alumina scales for protection.  | 2905-2913A             |
| by repeated thermomechanical treatment to produce a<br>heavily deformable material.<br>Influence of calcium addition on the superplastic-like behavior                                 | 2221-2228A               | Superalloys, Phase transformations<br>Effect of cold rolling on the precipitation behavior of $\delta$ phase in Inconel 718.  | 31-40A                 |
| of extruded Al-Al <sub>3</sub> Ni eutectic alloy.  Deformation bands, the LEDS theory, and their importance in   | 2258-2260A               | Precipitation of an intermetallic phase with Pt2Mo-type struc-  |                        |
| texture development. I. Previous evidence and new observa-<br>tions.   | 2491-2501A               | ture in alloy 625.  Secondary carbide precipitation in a directionally solidified   | 41-52A                 |
| Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys with nickel additions.  | 2629-2639A               | cobalt-base superalloy.  Characterization and modeling of the precipitation of the sigma  | 513-520A               |
| Stress-corrosion cracking susceptibility of the superplastically formed 5083 aluminum alloy in 3.5% NaCl solution.  Effect of initial microstructure on plastic flow and dynamic glob- | 3191-3199A               | phase in Udimet 720 and Udimet 720LI.  Superalloys, Phases (state of matter)  Prediction and characterization of variant electron diffraction   | 521-533A               |
| ularization during hot working of Ti-6Al-4V.   | 3219-3229A               | patterns for $\gamma''$ and $\delta$ precipitates in an Inconel 718 alloy.  | 2297-2303A             |

| Superalloys, Structural hardening<br>Effect of cold rolling and annealing on the structure of $\gamma^{\mu}$ prec   |                          | Temperature control Two-dimensional dynamic simulation of the thermal state of  |            |
|---|--------------------------|---|------------|
| itates in a Ni-18Cr-16Fe-5Nb-3Mo alloy.   | 1923-1931A               | ladies.   | 323-330B   |
| Superalloys, Thermal properties  Microstructure and texture effect on the thermal expansion of variously aged polycrystalline superalloy IN738LC.   | a<br>2803-2808A          | Temperature distribution Two-dimensional dynamic simulation of the thermal state of ladles.   | 323-330B   |
| Superalloys, Welding  Hot cracking susceptibility of fillers 52 and 82 in alloy 690 we ing.   | ld-<br>417-426A          | Tempering The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.   | 1835-1841A |
| The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Comparison of three different techniques for measuring the                            | 981-989A                 | Tensile properties, Composition effects  Mechanical behavior of Al-Li-SiC composites. I. Microstructure and tensile deformation.  | 845-855A   |
| residual stresses in an electron beam-welded plate of<br>Waspaloy.  Supercooling  | 1797-1808A               | Tensile properties, Processing effects Fabrication and characteristics of AA6061/ Si <sub>3</sub> N <sub>4p</sub> composite by the pressureless infiltration technique.     | 2999-3007A |
| Dendrite growth processes of silicon and germanium from<br>highly undercooled melts.  Effect of the primary phase on grain coarsening in undercoole   | 1333-1339A               | Tensile strength Bulk-alloy microstructural analogues for transient liquid-phase  |            |
| Fe-Co alloys. Discussion of "Dendrite growth processes of silicon and germanium from highly undercooled melts" and authors' reply   | 2941-2949A<br>3011-3016A | bonds in the NiAl/Cu/Ni system.  Tensile strength, Alloying effects Microalloying of C, Ni, and Ce in an advanced Al-Zn-Mg-Cu   | 3111-3124A |
| Superheating behavior of NiAl: Authors' reply.  Superheating  | 3265A                    | alloy.  The effect of Sr and Fe additions on the microstructure and   | 1017-1024A |
| Discussion of "Superheating behavior of NiAl". Superheating behavior of NiAl: Authors' reply.   | 1675A<br>3265A           | mechanical properties of a direct squeeze cast Al-7Si-0.3Mg<br>alloy.<br>Effect of small amounts of nitrogen on properties of a Ni-based                                    | 1341-1356A |
| Superplastic forming Observations of grain-boundary sliding and surface topogra-  |                          | superalloy.   | 1755-1761A |
| phy in an 8090 Al alloy after uniaxial and biaxial superplas<br>deformation.  Stress-corrosion cracking susceptibility of the superplastical  | tic 53-64A               | Tensile strength, Coating effects<br>Tensile properties of duplex metal-coated SiC fiber and tita-<br>nium alloy matrix composites.   | 3019-3024A |
| formed 5083 aluminum alloy in 3.5% NaCl solution.  Superplasticity  | 3191-3199A               | Tensile strength, Composition effects Degradation of residual strength in SCS-6/Ti-15-3 due to fully reversed fatique.  | 307-313A   |
| Observations of grain-boundary sliding and surface topogra-<br>phy in an 8090 Al alloy after uniaxial and biaxial superplas   | tic                      | Correlation of tensile strength with fracture modes of KAO-<br>WOOL- and SAFFIL-reinforced 339 aluminum.  | 815-824A   |
| deformation.  Superplasticity, Alloying effects   | 53-64A                   | Microstructure and mechanical behavior of spray-deposited<br>high-Li Al-Li alloys.  | 1381-1389A |
| Influence of carbon content on superplastic behavior in Ti- al<br>B-added Cr-Mo steels.   | nd<br>1185-1191A         | High-temperature mechanical behavior of Ti-6Al-4V alloy and<br>TiC <sub>p</sub> /Ti-6Al-4V composite.   | 1569-1578A |
| Influence of calcium addition on the superplastic-like behavior of extruded Al-Al <sub>3</sub> Ni eutectic alloy.   | or<br>2258-2260A         | Effect of fiber spatial arrangement on the transverse strength<br>of titanium matrix composites.<br>Finite-element method simulation of effects of microstructure,          | 2513-2522A |
| Superplasticity, Microstructural effects  The effect of grain size and temperature on the superplastic deformation behavior of a 7075 Al alloy.   | 2037-2047A               | stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.   | 3239-3251A |
| Surface alloying Microstructure of TiB <sub>2</sub> /carbon steel surface-alloyed materials   |                          | Tensile strength, Corrosion effects<br>Degradation mechanism of SiC/super $\alpha_2$ composite due to<br>interfacial reaction.  | 2713-2720A |
| fabricated by high-energy electron beam irradiation. Improvement of hardness and resistance of oxidation by ele tric arc alloying on ferritic steels.                                       | 3143-3151A               | Tensile strength, Cryogenic effects  Tensile behavior of rapidly solidified Al-Li-Zr and Al-Li-Cu-Mg-Zr alloys at 293 and 77K.  | 2254-2258A |
| Surface chemistry, Field effects Electrochemical interfacial phenomena under microgravity. I Numerical analysis of the rate of ionic mass transfer accor panying anodic copper dissolution. |                          | Tensile strength, Deformation effects Microstructures and tensile properties of an Al-12 wt.% Si alloy produced by reciprocating extrusion.                                 | 2503-2512A |
| Surface hardening Surface hardening of a gray cast iron used for a diesel engin   |                          | Tensile strength, Heating effects  Effect of alloy preheating on the mechanical properties of ascast Co-Cr-Mo-C alloys.   | 611-620A   |
| cylinder block using high-energy electron beam irradiation  Surface structure, Heating effects  | . 1211-1221A             | The tensile strength of 339 aluminum reinforced with kaowool fibers: a comparison of T5 and T6 heat treatments.   | 1835-1841A |
| Application of the cluster variation method to ordering in an interstitial solid soution: the γ-Fe[N]/γ-Fe <sub>4</sub> N <sub>1-x</sub> equilibrium.                                       | 1945-1953A               | Development of a heat treatment for a directionally solidified<br>cobalt-base superalloy.   | 2251-2254A |
| Surface structure, Processing effects  The solidification characteristics of laser surface-remelted F 12Cr-nC alloys.   | e-<br>1817-1826A         | Tensile strength, High temperature effects  Modeling high-temperature stress-strain behavior of cast aluminum alloys.   | 133-146A   |
| Surface tension, Alloying effects The surface tension of molten aluminum and Al-Si-Mg alloy under vacuum and hydrogen atmospheres.  | 1027-1032B               | Tensile strength, Microstructural effects Infuence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels.              | 1193-1202A |
| Surgical implants, Phase transformations Formation of hcp martensite during the isothermal aging of   |                          | A fine γ+α cellular structure in Fe-37.3 wt.% Ni-3.6 wt.% Al-3.3 wt.% Ti-0.2 wt.% C and its influence on high-temperature tensile properties.                               | 1495-1501A |
| fcc Co-27Cr-5Mo-0.05C orthopedic implant alloy.  Swaging  | 1177-1184A               | Microstructure-property relations in as-extruded ultrahigh-car-<br>bon steels.  | 1559-1568A |
| Tensile strength of thermomechanically processed Cu-9Ni-6<br>alloys.  | Sn<br>2649-2657A         | Tensile strength, Processing effects  Combined effects of time and temperature on strength evolution using integral work-of-sintering concepts.                             | 465-470A   |
| Tantalum, Alloying elements Liquid-solid partition ratios in nickel-base alloys.  | 2173-2181A               | Tensile strength of thermomechanically processed Cu-9Ni-6Sn alloys.  Entriestion and evaluation of NI/NIA Si, microlaminate follows:  | 2649-2657A |
| Tantalum, Ternary systems  Experimental study and thermodynamic assessment of the Mo-Ta ternary system.   | Ni-<br>2735-2744A        | Fabrication and evaluation of Nb/Nb <sub>5</sub> Si <sub>3</sub> microlaminate foils. <b>Tensile stress</b> The influence of tensile stress states on the failure of HY-100 | 2959-2965A |
| Tearing A new hot-tearing criterion.  | 449-455A                 | steel. Ternary systems, Phase transformations   | 2835-2842A |
| <b>Tellurium, Extraction</b> Strategies for optimal operation of the tellurium electrowinn  |                          | The influence of temperature gradients on Ostwald ripening.  Ternary systems, Phases (state of matter)  | 2341-2348A |
| process.  | 5-13B                    | Thermodynamic modeling of the palladium-lead-tin system.  | 5-18A      |

| Experimental study of phase equilibria in the system PbO-   | 04.070   | Thermodynamics of surfaces and adsorption in the Fe-S, Fe-   |   |
|---|--|--|---|
| ZnO-SiO <sub>2</sub> .  Thermodynamic calculation for alloy systems.  | 21-27B<br>271-277B   | N, and Fe-S-N systems at 1823K.  Thermodynamic aspects of steel reoxidation behavior by the  | 429-433B  |
| High-temperature phase relations and thermodynamics in the<br>silver-tin-sulfur system.   | 707-714B   | ladle slag system of CaO-MgO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -Fe <sub>t</sub> O-MnO-P <sub>2</sub> O <sub>5</sub> .<br>Model prediction of thermodynamic properties of Co-Fe-Ni-S   | 435-442B  |
| Investigation of the surface of the liquidus of the Fe-Ni-S system at X <sub>s</sub> <0.51.   | 715-722B   | mattes. A thermodynamic study of BaO-BaF <sub>2</sub> -Cr <sub>2</sub> O <sub>3</sub> system fluxes  | 443-450B  |
| Thermodynamic assessment of the Al-Fe-Si system.  | 1081-1095A   | used for dephosphorization of chromium-containing iron   |   |
| Thermodynamic activities in the alloys of the Ti-Al-Nb system.  | 1315-1326A   | melts.   | 451-457B  |
| Thermodynamic modeling of the nickel-lead-tin system.   | 1481-1494A   | Thermodynamics of Ca-Ga alloys.  | 459-464B  |
| Investigation of the phase equilibria in the Sn-Bi-In alloy sys-  |  | Thermodynamics of the miscibility gap in the Ag-Se system.   | 589-595B  |
| tem.  Experimental and thermodynamic investigation of the Ni-Al-Mo  | 1503-1515A   | A thermodynamic database for copper smelting and convert-<br>ing.  | 661-669B  |
| system.   | 1785-1795A   | High-temperature phase relations and thermodynamics in the   |   |
| Experimental investigations and thermodynamic descriptions<br>of the Ni-Si and C-Ni-Si systems.   | 2409-2418A   | iron-titanium-oxygen system.  High-temperature phase relations and thermodynamics in the   | 695-705B  |
| Experimental study and thermodynamic assessment of the Ni-  |  | silver-tin-sulfur system.  | 707-714B  |
| Mo-Ta ternary system.   | 2735-2744A   | Erratum: "Model prediction of thermodynamic properties of Co-<br>Fe-Ni-S mattes".  | 831B  |
| Ternary systems, Reactions (chemical)   |  | Interaction between nonstoichiometric titanium carbide and Fe-   |   |
| Evaluation of interaction parameters in metallic solutions by<br>the isoactivity method.  | 3103-3110A   | C alloys.  Thermodynamics and phase equilibria involving the spinel  | 857-863B  |
| Texture   |  | solid solution Fe <sub>x</sub> Mg <sub>1-x</sub> Cr <sub>2</sub> O <sub>4</sub> .  | 865-871B  |
| Thermal expansion of morphologically textured short-fiber   |  | Thermodynamic modeling of lead distribution among matte,   | 1033-1044B  |
| composites. Use of microstructural statistics in predicting polycrystalline   | 203-212A   | slag, and liquid copper.  Thermodynamics of nucleation and supersaturation for the alu-  | 1033-10446  |
| material properties.  | 969-979A   | minum-deoxidation reaction in liquid iron.   | 1065-1074B  |
| Texture evolution and the role of grain boundaries in skeletal  | 1055 1060A   | Thermodynamic assessment of the Al-Fe-Si system.  Thermodynamic activities in the alloys of the Ti-Al-Nb system.   | 1081-1095A<br>1315-1326A  |
| formation during coarsening in solid-liquid mixtures.  Ultrasonic measurement of the Kearns texture factors in Zir-   | 1955-1969A   | Thermodynamic modeling of the nickel-lead-tin system.  | 1481-1494A  |
| caloy, zirconium, and titanium.   | 1981-1988A   | Experimental and thermodynamic investigation of the Ni-Al-Mo<br>system.  | 1765-1795A  |
| Microstructure and texture effect on the thermal expansion of a<br>variously aged polycrystalline superalloy IN738LC.   | 2803-2808A   | Thermodynamic prediction of the eutectoid transformation tem-  | 1705-1735A  |
| Texture. Deformation effects  |  | peratures of low-alloy steels.   | 2325-2330A  |
| Prediction of yield surfaces of textured sheet metals.  | 377-386A   | Experimental investigations and thermodynamic descriptions<br>of the Ni-Si and C-Ni-Si systems.  | 2409-2418A  |
| Deformation bands, the LEDS theory, and their importance in<br>texture development. II. Theoretical conclusions.  | 2391-2401A   | Interaction energy between martensitic variants.   | 2583-2590A  |
| Deformation bands, the LEDS theory, and their importance in   | 2001 24017   | Experimental study and thermodynamic assessment of the Ni-<br>Mo-Ta ternary system.  | 2735-2744A  |
| texture development. I. Previous evidence and new observa-<br>tions.  | 2491-2501A   | Evaluation of interaction parameters in metallic solutions by  | 0400 04404  |
|   | 2491-2301A   | the isoactivity method.  | 3103-3110A  |
| Texture, Heating effects  Aluminum nitride precipitation and texture development in   |  | Thermomechanical treatment   |   |
| batch-annealed bake-hardening steel.  | 1663-1673A   | Microstructural refinement of an as-cast Al-12.6 wt.% Si alloy<br>by repeated thermomechanical treatment to produce a  |   |
| Thermal barriers, Coatings  |  | heavily deformable material.   | 2221-2228A  |
| Mathematical modeling of a melt pool driven by an electron beam.  | 515-525B   | Thin films, Crystal growth   |   |
|   | 313-323D   | Pattern formation during stationary heating and zone melting<br>recrystallization of a silicon thin film.  | 807-813A  |
| Thermal barriers, Mechanical properties  Mechanism of spallation in platinum aluminide/electron beam  |  |  | 007-013A  |
| physical vapor-deposited thermal barrier coatings.  | 427-435A   | Thixoforming  An induction heating process with coil design and solutions  | 1   |
| Thermal conductivity  |  | avoiding coarsening phenomena of Al-6% Si-3% Cu-0.3%   | 0007 00774  |
| Nonstationary hot wire method with silica-coated probe for  | 1071 10701   | Mg alloy for thixoforming.   | 2967-2977A  |
| measuring thermal conductivities of molten metals.  | 1971-1979A   | Tin, Alloying elements  Texture evolution and the role of grain boundaries in skeletal   |   |
| Thermal cycling  Microstructural zones in the primary solidification structure of   |  | formation during coarsening in solid-liquid mixtures.  | 1955-1969A  |
| weldment of 9Cr-1Mo steel.  | 161-174A   |  |   |
| Mechanism of spallation in platinum aluminide/electron beam   |  | Tin, Binary systems  |   |
|   |  | Dendritic morphology observed in the solid-state precipitation   | 1520-15244  |
| physical vapor-deposited thermal barrier coatings.  | 427-435A   |  | 1529-1534A<br>2341-2348A  |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects  |  | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  |   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com-   | 427-435A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system.  |   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  |  | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  | 2341-2348A  |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects  | 427-435A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system.  High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system.   | 2341-2348A<br>5-18A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  | 427-435A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system.  High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system.  Investigation of the phase equilibria in the Sn-Bi-In alloy sys-   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites. Microstructure and texture effect on the thermal expansion of a  | 427-435A<br>2875-2884A<br>203-212A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-tempe atture phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.   | 2341-2348A<br>5-18A<br>707-714B   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites. Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.   | 427-435A<br>2875-2884A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel con-   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack-   | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system.  High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials  | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe rature phase relations and thermodynamics in the silver-tin-sulfur system. Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack- ing behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects  | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system.  High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack- ing behavior of high-silicon spheroidal graphite cast iron.   | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe atture phase relations and thermodynamics in the silver-tin-sulfur system. Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites. Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack ing behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast alu- minum alloys.  | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A<br>1549-1558A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system. Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solu-  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites. Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617   | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A<br>1549-1558A<br>133-146A                                   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-temperature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties  Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composities. Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack- ing behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast alu- minum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.   | 427-435A<br>2875-2884A<br>203-212A<br>2803-2808A<br>1549-1558A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-temperature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties  Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-  | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix com- posites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue crack- ing behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast alu- minum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics   | 427-435A 2875-2884A 203-212A 2803-2808A 1549-1558A 133-146A 981-989A   | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties  Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamics modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid  | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A                            | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-temperature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive High-temperature deformation behavior of NiAl(Ti) solid-solu-   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A<br>1541-1547A                           |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamics Thermodynamic modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> .  | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A  67-74B                    | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-tempe ature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties  Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A   |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamics modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid  | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A                            | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe rature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive High-temperature deformation behavior of NiAI(Ti) solid-solution single crystals. Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.   | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A<br>1541-1547A<br>587-600A<br>1185-1191A |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamics Thermodynamic modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> . Thermodynamic calculation for alloy systems. Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.  | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A  67-74B 271-277B  279-286B | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe rature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals.  Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.        | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A<br>1541-1547A<br>587-600A               |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamic modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> . Thermodynamic calculation for alloy systems. Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO. Thermodynamics of yttrium and oxygen in molten zirconium. | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A  67-74B 271-277B           | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems  Thermodynamic modeling of the palladium-lead-tin system. High-tempe rature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements  Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties  Solid solution creep behavior of Sn-xBi alloys.  Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions.  Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure  Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive  High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals.  Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys. | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A<br>1541-1547A<br>587-600A<br>1185-1191A |
| physical vapor-deposited thermal barrier coatings.  Thermal expansion, Composition effects Influence of the localized initial plastic deformation on the effective thermomechanical response of metal-matrix composites.  Thermal expansion, Microstructural effects Thermal expansion of morphologically textured short-fiber composites.  Microstructure and texture effect on the thermal expansion of a variously aged polycrystalline superalloy IN738LC.  Thermal fatigue, Composite materials Effect of residual magnesium content on thermal fatigue cracking behavior of high-silicon spheroidal graphite cast iron.  Thermal fatigue, High temperature effects Modeling high-temperature stress-strain behavior of cast aluminum alloys.  Thermal fatigue, Welding effects The thermal fatigue behavior of the combustor alloys IN 617 and Haynes 230 before and after welding.  Thermodynamics Thermodynamics Thermodynamic modeling of the palladium-lead-tin system. An interacting pair model for alkaline binary and ternary liquid silicates: application to the systems Na <sub>2</sub> O-K <sub>2</sub> O-SiO <sub>2</sub> . Thermodynamic calculation for alloy systems. Kinetics of simultaneous reactions between liquid iron-carbon alloys and slags containing MnO.  | 427-435A  2875-2884A  203-212A  2803-2808A  1549-1558A  133-146A  981-989A  5-18A  67-74B 271-277B  279-286B | Dendritic morphology observed in the solid-state precipitation in binary alloys.  The influence of temperature gradients on Ostwald ripening.  Tin, Ternary systems Thermodynamic modeling of the palladium-lead-tin system. High-tempe rature phase relations and thermodynamics in the silver-tin-sulfur system.  Thermodynamic modeling of the nickel-lead-tin system. Investigation of the phase equilibria in the Sn-Bi-In alloy system.  Tin, Trace elements Creep deformation and fracture of a Cr/Mo/V bolting steel containing selected trace-element additions.  Tin base alloys, Mechanical properties Solid solution creep behavior of Sn-xBi alloys. Deformation behavior of dilute SnBi (0.5 to 6 at.%) solid solutions. Time-dependent deformation behavior of near-eutectic 60Sn-40Pb solder.  Tin base alloys, Microstructure Investigation of microstructural coarsening in Sn-Pb alloys.  Titanium, Alloying additive High-temperature deformation behavior of NiAl(Ti) solid-solution single crystals.  Influence of carbon content on superplastic behavior in Ti- and B-added Cr-Mo steels.  Improvement of shape memory effect in Fe-Mn-Si-Cr-Ni alloys.        | 2341-2348A<br>5-18A<br>707-714B<br>1481-1494A<br>1503-1515A<br>2049-2058A<br>115-122A<br>123-132A<br>1301-1313A<br>1541-1547A<br>587-600A<br>1185-1191A |

| Erratum: "Effects of Ti addition on cleavage fracture in Nb-Cr-Ti solid-solution alloys".  | 1686A                    | Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.  | 1203-1209A               |
|--|--------------------------|--|--------------------------|
| Correction to erratum: Effects of Ti addition on cleavage frac-<br>ture in Nb-Cr-Ti solid solution alloys.   | 3025A                    | Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.   | 2019-2026A               |
| Titanium, Binary systems $\beta \rightarrow \alpha^*$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys.  | 231-233A                 | The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.<br>Low-cycle dwell-time fatigue in Ti-6242.<br>On the occurrence of dynamic strain aging in near-alpha alloy                                 | 2349-2367A<br>2383-2389A |
| Determination of the critical nucleus size of precipitates using<br>the macroscopic composition gradient method.   | 2783-2789A               | Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si. The influence of internal stresses on the fracture toughness of   | 2547-2549A               |
| Partial Fe-Ti alloy phase diagrams at high pressure.  Titanium, Extraction   | 3009-3011A               | $\alpha/\beta$ titanium alloys. Influence of the temperature on the plastic deformation in TiAl.   | 2853-2863A<br>2865-2873A |
| Titanium powder prepared by magnesiothermic reduction of Ti <sup>2+</sup> in molten salt.  | 403-410B                 | Environmental embrittlement caused by hydrogen for interme-<br>tallic compounds: preliminary model of ductility reduction.   | 3089-3097A               |
| High-temperature phase relations and thermodynamics in the<br>iron-titanium-oxygen system.   | 695-705B                 | Titanium base alloys, Metal working  Effect of initial microstructure on plastic flow and dynamic glob-  | 3219-3229A               |
| Titanium, Extrusion Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working tempera- tures.  | 1425-1435A               | ularization during hot working of Ti-6Al-4V.  Titanium base alloys, Microstructure Time-dependent twinning during ambient temperature compression creep of alpha Ti-0.4Mn alloy.                           | 1675-1679A               |
| Titanium, Forging Open-die forging of structurally porous sandwich panels.   | 2689-2699A               | Titanium base alloys, Phase transformations Stress-induced products in a Ti-14.8V alloy deformed in ten-   | 1070 10701               |
| Titanium, Microstructure   | 2000 2000M               | sion.  | 2249-2251A               |
| Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.   | 1981-1988A               | The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I.  Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys   | 2305-2323A               |
| Titanium, Powder technology  |                          | during aging in the single $\alpha$ field.   | 2591-2598A               |
| Thermal analysis of self-propagating high-temperature reac-<br>tions in titanium, boron, and aluminum powder compacts.<br>Hot explosive compaction of Mo-Ti alloys.  | 781-788A<br>2483-2489A   | Titanium base alloys, Phases (state of matter) $\beta \rightarrow \alpha^*$ and $\beta \rightarrow \omega$ transformations in Ti-Os alloys. Thermodynamic activities in the alloys of the Ti-Al-Nb system. | 231-233A<br>1315-1326A   |
| Titanium, Ternary systems  | 1015 10064               | Titanium base alloys, Powder technology  |                          |
| Thermodynamic activities in the alloys of the Ti-Al-Nb system.<br>Evaluation of interaction parameters in metallic solutions by<br>the isoactivity method.   | 1315-1326A<br>3103-3110A | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha$ + $\gamma$ -phase field.   | 751-761A                 |
| Titanium base alloys, Bonding  | 0.000                    | Thermal analysis of self-propagating high-temperature reac-<br>tions in titanium, boron, and aluminum powder compacts.   | 781-788A                 |
| Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2 at.% Cr-2 at.% Nb.  | 2723-2726A               | Field-activated combustion synthesis of titanium aluminides.  Titanium base alloys, Welding  | 1101-1108A               |
| Titanium base alloys, Composite materials  |                          | Fusion zone microstructure and porosity in electron beam   | 700 7004                 |
| Observation of fatigue damage process in SiC fiber-reinforced<br>Ti-15-3 composite at high temperature.  | 221-229A                 | welds of an $\alpha+\beta$ titanium alloy. The role of phase transformation in electron-beam welding of  | 789-798A                 |
| Effect of in situ material properties on fatigue damage modes in<br>titanium matrix composites.  | 255-266A                 | TiAl-based alloys.  Titanium carbide, Coatings   | 1717-1726A               |
| Fatigue crack growth in Ti-matrix composites with spatially var-<br>ied interfaces.  | 267-275A                 | Effect of flux addition on the microstructure and hardness of<br>TiC-reinforced ferrous surface composite layers fabricated by   |                          |
| Elastic shielding during fatigue-crack growth of titanium matrix composites.   | 277-286A                 | high-energy electron beam irradiation.   | 3131-3141A               |
| Evaluation of the MMCLIFE 3.0 code in predicting crack growth in titanium aluminide composites.  | 287-299A                 | Titanium carbide, Composite materials Interaction between nonstoichiometric titanium carbide and Fe-   |                          |
| Transverse creep of SiC/Ti-6Al-4V fiber-reinforced metal matrix composites.  | 301-306A                 | C alloys.  A study on the kinetic process of reaction synthesis of TiC. I.   | 857-863B                 |
| Degradation of residual strength in SCS-6/TI-15-3 due to fully   |                          | Experimental research and theoretical model.  A study on the kinetic process of reaction synthesis of TiC. II.   | 1147-1151A               |
| reversed fatigue. Interface characterization of duplex metal-coated SiC fiber-   | 307-313A                 | Theoretical analyses and numerical calculation.  High-temperature mechanical behavior of Ti-6Al-4V alloy and   | 1153-1157A               |
| reinforced Ti-15-3 matrix composites.  Diffusional reactions during processing of Timetal 21S/   | 653-666A                 | TiC <sub>p</sub> /Ti-6Al-4V composite.   | 1569-1578A               |
| Al <sub>2</sub> O <sub>3</sub> composites.<br>High-temperature mechanical behavior of Ti-6Al-4V alloy and  | 1437-1447A               | Titanium compounds, Bonding Wide-gap transient liquid-phase bonding of Ti-48 at.% Al-2   |                          |
| TiC <sub>p</sub> /Ti-6Al-4V composite.  Fatigue in selectively fiber-reinforced titanium matrix compos-  | 1569-1578A               | at.% Cr-2 at.% Nb.   | 2723-2726A               |
| ites.  Effect of fiber spatial arrangement on the transverse strength  | 2237-2248A               | Titanium compounds, Coatings Synthesis and characterization of Ti-Si-C-N films.  | 2439-2447A               |
| of titanium matrix composites.  Degradation mechanism of SiC/super $\alpha_2$ composite due to   | 2513-2522A               | Titanium compounds, Composite materials Wear behavior of in situ Al-based composites containing  |                          |
| interfacial reaction.  Tensile properties of duplex metal-coated SiC fiber and tita-   | 2713-2720A               | TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.  Degradation mechanism of SiC/super $\alpha_2$ composite due to  | 243-248A                 |
| nium alloy matrix composites.  | 3019-3024A               | interfacial reaction.  Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrif-   | 2713-2720A               |
| Titanium base alloys, Extrusion Finite-element modeling of nonisothermal equal-channel angu-   |                          | ugal method.   | 3253-3261A               |
| lar extrusion.  Hot working of Ti-6Al-4V via equal channel angular extrusion.  | 1391-1402A<br>2473-2481A | Titanium compounds, Heat treatment The nitriding behavior of Ti-Al alloys at 1000°C.   | 19-29A                   |
| Titanium base alloys, Forging Cavitation and failure during hot forging of Ti-6Al-4V.  | 1411-1424A               | Titanium compounds, Mechanical properties  The effect of microstructure on fracture toughness and fatigue  |                          |
| Titanium base alloys, Heat treatment   | 40.004                   | crack growth behavior in $\gamma$ -titanium aluminide based intermetallics.  | 563-577A                 |
| The nitriding behavior of Ti-Al alloys at 1000°C.  Mechanism of surface modification of the Ti-6Al-4V alloy using  | 19-29A                   | Modeling and measurement of the notched strength of gamma<br>titanium aluminides under monotonic loading.  | 949-959A                 |
| a gas tungsten arc heat source.  Influence of annealing on depth distributions and microstruc-   | 1597-1603A               | Statistical simulation of small fatigue crack nucleation and coa-<br>lescence in a lamellar TiAl alloy.  | 1203-1209A               |
| ture of ion-implanted Ti6Al4V.  Titanium base alloys, Mechanical properties  | 2121-2127A               | Dislocations, kink bands, and room-temperature plasticity of<br>Ti <sub>3</sub> SiC <sub>2</sub> .   | 1727-1738A               |
| The effects of pre-dissolved hydrogen on cleavage and grain boundary fracture initiation in metastable beta Ti-3Al-8V-6Cr-   |                          | Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.   | 2019-2026A               |
| 4Mo-4Zr. I.  The effect of microstructure on fracture toughness and fatigue  | 65-79A                   | The creep behavior of Ti-Al-Nb O+bcc orthorhombic alloys. II.<br>Influence of the temperature on the plastic deformation in TiAl.  | 2349-2367A<br>2865-2873A |
| crack growth behavior in γ-titanium aluminide based interme-<br>tallics.   | 563-577A                 | Environmental embrittlement caused by hydrogen for interme-<br>tallic compounds: preliminary model of ductility reduction.   | 3089-3097A               |
| Modeling and measurement of the notched strength of gamma titanium aluminides under monotonic loading.   | 949-959A                 | Titanium compounds, Phase transformations Strain dependence of pseudoelastic hysteresis of NiTi.   | 1275-1282A               |
| The state of the s | 5.0 000A                 | Silvani depondence of pseudocidatio hysteresis of MIII.  | 1215-1202A               |

| The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I. Formation of $\alpha$ phase in the massive and feathery $\gamma$ -TiAl alloys | 2305-2323A               | Tungsten, Alloying additive  The effect of manganese addition on the microstructure of W-Ni-Fe heavy alloy.  | 627-632A   |
|---|--------------------------|--|------------|
| during aging in the single $\alpha$ field.<br>Transformation behavior of sintered porous NiTi alloys.   | 2591-2598A<br>2753-2756A | Tungsten, Ternary systems  The influence of temperature gradients on Ostwald ripening.   | 2341-2348A |
| Titanium compounds, Powder technology Micropyretic synthesis studies of Ni-, Al-, Ti-, and Nb-contain-  |                          | Tungsten base alloys, Mechanical properties  |            |
| ing alloys.  Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy   | 171-188B                 | Effect of size and shape of tungsten particles on dynamic tor-<br>sional properties in tungsten heavy alloys.<br>Effect of surface carburization on dynamic deformation and                | 1261-1273A |
| during annealing in the $\alpha$ + $\gamma$ -phase field. Thermal analysis of self-propagating high-temperature reac-                                 | 751-761A                 | fracture of tungsten heavy alloys.   | 2027-2035A |
| tions in titanium, boron, and aluminum powder compacts.<br>Field-activated combustion synthesis of titanium aluminides.                               | 781-788A<br>1101-1108A   | Tungsten base alloys, Microstructure  The effect of manganese addition on the microstructure of W-   |            |
| Titanium compounds, Welding  The role of phase transformation in electron-beam welding of   | 1717 17004               | Ni-Fe heavy alloy.  Tungsten base alloys, Powder technology  | 627-632A   |
| TiAl-based alloys.  Titanium diboride, Alloying elements  | 1717-1726A               | Application of percolation theory in predicting shape distortion<br>during liquid-phase sintering.   | 2209-2220A |
| Microstructure of TiB <sub>2</sub> /carbon steel surface-alloyed materials fabricated by high-energy electron beam irradiation.                       | 3143-3151A               | Densification and shape distortion in liquid-phase sintering.  | 3211-3217A |
| Titanium diboride, Composite materials  |                          | Tungsten carbide, Composite materials A dual composite of WC-Co.   | 3231-3238A |
| Wear behavior of in situ Al-based composites containing<br>TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.      | 243-248A                 | Turbine blades, Casting A three-dimensional cellular automation-finite element model   |            |
| Titanium dioxide, Composite materials  Wear behavior of in situ Al-based composites containing  |                          | for the prediction of solidification grain structures.   | 3153-3165A |
| TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.  Titanium dioxide, Reactions (chemical)                         | 243-248A                 | Turbine blades, Mechanical properties<br>Liquid impact erosion mechanism and theoretical impact stress<br>analysis in TiN-coated steam turbine blade materials.                            | 961-968A   |
| Rate of reduction of Fe <sub>t</sub> O-SiO <sub>2</sub> -TiO <sub>2</sub> melts with CO gas.  | 827-829B                 | Turbulent flow   |            |
| Titanium nitride, Coatings Liquid impact erosion mechanism and theoretical impact stress  |                          | Turbulence structure of bottom-blowing bubbling jet in a molten<br>Wood's metal bath.  | 61-66B     |
| analysis in TiN-coated steam turbine blade materials.  Rapid thermal processing TiN coatings deposited by chemical                                    | 961-968A                 | Discussion of "Decay of fluid motion in a filling ladle after tap-<br>ping" and author's reply.  | 541-543B   |
| and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties.                           | 2931-2939A               | LDV measurements and computation of a turbulent circular jet placed non-concentrically in a confining pipe.  | 957-967B   |
| Titanium nitride, Impurities  |                          | Turning (machining)  | 007 007 5  |
| Effect of TiN particles and microstructure on fracture toughness in simulated heat-affected zones of a structural steel.                              | 2089-2096A               | Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties. | 2931-2939A |
| Tomography High-energy x-ray computed tomography of the progression of  | 4400 44004               | Twinning   | 2007 20007 |
| the solidification front in pure aluminum.  Tool life, Coating effects  | 1403-1409A               | Microstructural evolution of a nanocrystalline Ti-47Al-3Cr alloy during annealing in the $\alpha$ + $\gamma$ -phase field.   | 751-761A   |
| Rapid thermal processing TiN coatings deposited by chemical<br>and physical vapor deposition using a low-energy, high-cur-                            |                          | Influence of grain size and stacking-fault energy on deforma-<br>tion twinning in fcc metals.  | 1223-1233A |
| rent electron beam: micro-structural studies and properties.  | 2931-2939A               | Time-dependent twinning during ambient temperature com-<br>pression creep of alpha Ti-0.4Mn alloy.   | 1675-1679A |
| Tool steels, Heat treatment  Multicomponent diffusion simulation based on finite elements.  | 2575-2582A               | Twinning, Stress effects Stress-induced products in a Ti-14.8V alloy deformed in ten-  | 1          |
| Tool steels, Powder technology  The mechanism of porous column formation during spray form-   |                          | sion.  | 2249-2251  |
| ing.  Torsion, Microstructural effects  | 1679-1682A               | Ultrasonic testing Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  | 1981-1988A |
| Effect of size and shape of tungsten particles on dynamic tor-<br>sional properties in tungsten heavy alloys.   | 1261-1273A               | Vanadium, Alloying additive  | 1001 10001 |
| Transgranular fracture, Alloying effects Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys                         |                          | Composition, microstructure, hardness, and wear properties of<br>high-speed steel rolls.   | 399-409A   |
| with nickel additions.  | 2629-2639A               | Vanadium compounds, Mechanical properties  |            |
| Transgranular fracture, Microstructural effects The effects of grain-refining precipitates on the development of                                      |                          | Environmental embrittlement caused by hydrogen for interme-<br>tallic compounds: preliminary model of ductility reduction.   | 3089-3097A |
| toughness in 4340 steel.  | 93-114A                  | Vapor deposited coatings, Heat treatment Rapid thermal processing TiN coatings deposited by chemical   |            |
| Transition joints, Mechanical properties The influence of solid-state and liquid-phase bonding on   | 700 7004                 | and physical vapor deposition using a low-energy, high-cur-<br>rent electron beam: micro-structural studies and properties.  | 2931-2939A |
| fatigue at Al/Al <sub>2</sub> O <sub>3</sub> interfaces.  Bulk-alloy microstructural analogues for transient liquid-phase                             | 763-769A                 | Velocity measurement   | 200. E000A |
| bonds in the NiAl/Cu/Ni system.  Tribology  | 3111-3124A               | Development and calibration of a Karman vortex probe for<br>measurement of molten-steel velocities.  | 53-59B     |
| Mechanical behavior of aluminum matrix composite during<br>extrusion in the semisolid state.  | 1137-1146A               | Viscosity Discussion of "Mixing time and fluid flow phenomena in liquids   |            |
| Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.  | 2019-2026A               | of varying kinematic viscosities agitated by bottom gas injec-<br>tion" and authors' reply.  | 349-352B   |
| TRIP steels, Metal working  |                          | Voids  | 0-3-302D   |
| A general approach for predicting the drawing fracture load<br>and limit drawing ratio of an axisymmetric drawing process.                            | 2619-2627A               | Evidence of void nucleation and growth on planar slip bands in<br>a Nb-Cr-Ti alloy.  | 579-585A   |
| TRIP steels, Phase transformations Interaction energy between martensitic variants.   | 2583-2590A               | Cavity sequences in continuously cast billets. I. Analysis of<br>empirical data.   | 751-761B   |
| Tritium, Diffusion  |                          | Cavity sequences in continuously cast billets. II. Stochastic models.  | 763-772B   |
| Copper coatings for minimization of retention and permeation of implanted tritium in aluminum alloy 6061.  TTT curves                                 | 2191-2199A               | Volume fraction  Modeling the fluid-flow-induced stress and collapse in a den-   |            |
| Analysis of temperature and microstructure in the quenching of  |                          | dritic network.  Degradation of residual strength in SCS-6/TI-15-3 due to fully  | 287-293B   |
| steel cylinders.  Tubes, Mechanical properties  | 815-822B                 | reversed fatigue. Synergistic effects of wear and corrosion for  | 307-313A   |
| Yield behavior of a mild steel after prestraining and aging<br>under reversed stress.   | 411-416A                 | $\mathrm{Al}_2\mathrm{O}_3$ particulate-reinforced 6061 aluminum matrix composites.  | 643-651A   |

| Volume traction, Processing effects  |                          |  | voidine oo               |
|--|--------------------------|--|--------------------------|
| Infuence of martensite content and morphology on tensile and impact properties of high-martensite dual-phase steels.  Fatigue in selectively fiber-reinforced titanium matrix compos-                  | 1193-1202A               | Fusion zone microstructure and porosity in electron beam welds of an $\alpha+\beta$ titanium alloy. Microstructural evolution of 6063 aluminum during friction-stir  | 789-798A                 |
| ites.  | 2237-2248A               | welding.   | 2429-2437A               |
| Effect of fiber spatial arrangement on the transverse strength<br>of titanium matrix composites.   | 2513-2522A               | A process model for the heat-affected zone microstructure evo-<br>lution in Al-Zn-Mg weldments.  | 2667-2677A               |
| Finite-element method simulation of effects of microstructure,<br>stress state, and interface strength on flow localization and<br>constraint development in Nb/Cr <sub>2</sub> Nb in situ composites. | 3239-3251A               | A process model for the heat-affected zone microstructure evo-<br>lution in duplex stainless steel weldments. I. The model.  | 2915-2929A               |
| Volume fraction, Processing effects  Analysis of size distributions of primary oxide inclusions in Fe- 10 mass% Ni-M (M=Si, Ti, Al, Zr, and Ce) alloy.   | 259-270B                 | Welded joints, Oxidation<br>Role of gaseous environment and secondary precipitation in<br>microstructural degradation of Cr-Mo steel weldments at high<br>temperatures.  | 2103-2113A               |
| Waste disposal   |                          | Welded joints, Phase transformations   |                          |
| Preparation and physical characteristics of a lithium-beryllium-<br>substituted fluorapatite.  | 147-153A                 | Microstructural zones in the primary solidification structure of<br>weldment of 9Cr-1Mo steel.<br>The role of phase transformation in electron-beam welding of   | 161-174A                 |
| Water, Environment Hydrogen embrittlement, grain boundary segregation, and stress corrosion cracking of alloy X-750 in low- and high-tem-  | 4570.45004               | TiAl-based alloys.  Welding parameters Fusion zone microstructure and porosity in electron beam  | 1717-1726A               |
| perature water.  | 1579-1596A               | welds of an $\alpha+\beta$ titanium alloy.   | 789-798A                 |
| Water, Reactions (chemical)  Triggering steam explosions of single drops of a molten ferro- silicon alloy with a simple encapsulated mechanical impactor.  | 1083-1088B               | Welding wire, Melting Droplet formation, detachment, and impingement on the molten pool in gas metal arc welding.  | 791-801B                 |
| Water quenching Mechanism of the formation of lamellar ${\rm M}_{23}{\rm C}_6$ at and near twin boundaries in austenitic stainless steels.   | 2791-2801A               | Weldments, Magnetic properties  Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel.   | 2067-2072A               |
| Water vapor, Environment The effect of water vapor on the oxidation of alloys that   |                          | Weldments, Oxidation   |                          |
| develop alumina scales for protection.  Wear mechanisms, Environmental effects   | 2905-2913A               | Role of gaseous environment and secondary precipitation in<br>microstructural degradation of Cr-Mo steel weldments at high<br>temperatures.  | 2103-2113A               |
| Dry sliding wear behavior of A356-15% SiC <sub>p</sub> composites under controlled atmospheric conditions.  Wear rate, Composition effects   | 2523-2538A               | Weldments, Phase transformations Microstructural zones in the primary solidification structure of weldment of 9Cr-1Mo steel.   | 161-174A                 |
| Synergistic effects of wear and corrosion for $\mbox{\rm Al}_2\mbox{\rm O}_3$ particulate-reinforced 6061 aluminum matrix composites.  | 643-651A                 | Whisker composites, Mechanical properties  Processing copper and silver matrix composites by electroless plating and hot pressing.   | 1119-1136A               |
| Wear resistance<br>Interplay between oxidation and wear behavior of the Ti-48Al-<br>2Cr-2Nb-1B alloy.  | 2019-2026A               | Whisker composites, Recycling Recycling of aluminum matrix composites.   | 839-844A                 |
| Wear resistance, Composition effects Wear behavior of in situ Al-based composites containing TiB <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , and Al <sub>3</sub> Ti particles.                     | 243-248A                 | Widmanstatten structure, Heating effects The microstructural evolution in Ti-Al-Nb O+bcc orthorhombic alloys. I.   | 2305-2323A               |
| Wear of Al-based hybrid composites containing BN and SiC particulates.  A dual composite of WC-Co.  Wear behavior of Al-Al <sub>3</sub> Ti composite manufactured by a centrif-                        | 2551-2555A<br>3231-3238A | Wire, Microstructure  Atom probe and transmission electron microscopy investigations of heavily drawn pearlitic steel wire.  | 717-727A                 |
| ugal method. Wear resistance, Heating effects  | 3253-3261A               | Work rolls, Mechanical properties<br>Correlation of microstructure and microfracture mechanism of<br>five work rolls.  | 234-243A                 |
| Surface hardening of a gray cast iron used for a diesel engine cylinder block using high-energy electron beam irradiation.  Wear resistance, Processing effects  | 1211-1221A               | Workability Workability of commercial-purity titanium and 4340 steel during equal channel angular extrusion at cold-working tempera-   |                          |
| Composition, microstructure, hardness, and wear properties of<br>high-speed steel rolls.   | 399-409A                 | tures.   | 1425-1435A               |
| Weight reduction Relation between cooling rates and microstructures in gravity-  |                          | X ray diffraction<br>Transmission x-ray diffraction of single-crystal nickel-base<br>superalloys.  | 1880-1882A               |
| die-cast AZ91D disks.  Weld metal, Microstructure Discription of grain-boundary migration in the weld metal of an  | 723-729B                 | Yield strength<br>On the occurrence of dynamic strain aging in near-alpha alloy<br>Ti-5.8Al-4Sn-3.5Zr-0.7Nb-0.5Mo-0.35Si.  | 2547-2549A               |
| Direction of grain-boundary migration in the weld metal of an<br>austenitic stainless steel.   | 621-626A                 | Mathematical modeling of the hot-deformation behavior of   | 2701-2712A               |
| Welded joints, Heat treatment Precipitation sequence in friction stir weld of 6063 aluminum during aging.  | 3125-3130A               | superalloy IN718.  Yield strength, Alloying effects Properties of the Ir <sub>85</sub> Nb <sub>15</sub> two-phase refractory superalloys   |                          |
| Welded joints, Magnetic properties  Effect of different stages of tensile deformation on micromagnetic parameters in high-strength, low-alloy steel.   | 2067-2072A               | with nickel additions.  Yield strength, Composition effects  Microstructure and mechanical behavior of spray-deposited   | 2629-2639A               |
| Welded joints, Mechanical properties Hot cracking susceptibility of fillers 52 and 82 in alloy 690 weld-   |                          | high-Li Al-Li alloys.<br>High-temperature mechanical behavior of Ti-6Al-4V alloy and   | 1381-1389A               |
| ing. The thermal fatigue behavior of the combustor alloys IN 617   | 417-426A                 | TiC <sub>p</sub> /Ti-6Al-4V composite.  Plasticity of continuous fiber-reinforced metals.  | 1569-1578A<br>1843-1866A |
| and Haynes 230 before and after welding.  Comparison of three different techniques for measuring the residual stresses in an electron beam-welded plate of   | 981-989A                 | The effect of Mg on the microstructure and mechanical behav-<br>ior of Al-Si-Mg casting alloys.<br>Influence of the localized initial plastic deformation on the<br>effective thermomechanical response of metal-matrix com- | 2611-2618A               |
| Waspaloy.  Effect of TiN particles and microstructure on fracture tough-   | 1797-1808A               | posites.  Finite-element method simulation of effects of microstructure.   | 2875-2884A               |
| ness in simulated heat-affected zones of a structural steel.  Quantitative evaluation of softened regions in weld heat- affected zones of 6061-T6 aluminum alloy—characterizing of                     | 2089-2096A               | stress state, and interface strength on flow localization and constraint development in Nb/Cr <sub>2</sub> Nb in situ composites.  | 3239-3251A               |
| the laser beam welding process.  | 2115-2120A               | Yield strength, Deformation effects Yield behavior of a mild steel after prestraining and aging  |                          |
| Welded joints, Microstructure  Modeling macro- and microstructures of gas-metal-arc welded   |                          | under reversed stress.  Microstructures and tensile properties of an Al-12 wt.% Si alloy   |                          |
| HSLA-100 steel.  Direction of grain-boundary migration in the weld metal of an   | 483-493B                 | produced by reciprocating extrusion.  The influence of rolling practice on notch toughness and tex-  | 2503-2512A               |
| austenitic stainless steel.  | 621-626A                 | ture development in high-strength linepipe.  | 3045-3054A               |

| impact properties of high-martensite dual-phase steels. Influence of grain size and stacking-fault energy on deformation twinning in foc metals. Influence of grain size on the constitutive response and substructure evolution of Monel 400. Microstructure-property relations in as-extruded ultrahigh-carbon steels.  Yield strength, Processing effects Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  Yield strength, Stress effects Bauschinger effect s Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yttrium, Reactions (chemical) Thermodynamics of yttrium and oxygen in molten zirconium.  Zinc, Binary systems Dendritic morphology observed in the solid-state precipitation in binary alloys.  Zinc, Diffusion A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.  1193-1202A  223-1233A 1235-1247A 1245-1247A 1255-1247A 1255 | 573A | 2563-257 | el of peritectoid transformation.                      | A numerical model of pe                               |            | strength, Microstructural effects                               |
|--|------|----------|--|---|------------|---|
| tion twinning in fcc metals.  Influence of grain size on the constitutive response and substructure evolution of Monel 400.  Microstructure-property relations in as-extruded ultrahigh-carbon steels.  Vield strength, Processing effects Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effects Bauschinger effects Bauschinger effects and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effects Bauschinger effects and multiaxial yield behavior of stressreversed mild steel.  Vield strength, Stress effects Bauschinger effect | 2400 | 005.01   |  | Studies on the chlorination                           | 1193-1202A |   |
| structure evolution of Monel 400.  Microstructure-property relations in as-extruded ultrahigh-carbon steels.  Yield strength, Processing effects Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Yield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stressreversed mild steel.  Xirconium Base alloys, Mechanical properties Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass.  Xirconium base alloys, Microstructure  Ultrasonic measurement of the Kearns texture factors in Zirconium base alloys, Microstructure  Ultrasonic measurement of the Kearns texture factors in Zirconium base alloys, Phase transformations  Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed.  Xirconium base alloys, Microstructure  Ultrasonic measurement of the Kearns texture factors in Zirconium base alloys, Microstructure  2irconium base alloys, Microstructure  2irconium base  |      |          |  | Kinetics of chlorination of                           | 1223-1233A | ion twinning in fcc metals.                                     |
| bon steels.  1559-1568A  1559- | 381B | 375-38   |  |   | 1235-1247A | structure evolution of Monel 400.                               |
| Vield strength, Processing effects Influence of cold rolling and strain rate on plastic response of powder metallurgy and chemical vapor deposition rhenium.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel.  Vield strength, Stress effects Bauschinger effect and multiaxial yield behavior of stress-reversed mild steel.  Viernoium, Reactions (chemical) Thermodynamics of yttrium and oxygen in molten zirconium.  Viernoium base alloys, Mechanical properties Mechanisms for fracture and fatigue-crack propagation in a bulk metallic glass.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  Virconium base alloys, Microstructure Ultrasonium base alloys, Microstructure  Virconium base alloys, Microstructure  Virconium base alloys, Microstructure  Ultrasonium saudios, Microstructure  Virconium base alloys, Microstructure  Virconium base alloys, Microstructure  Ultrasonium saudios, Microstructure  Virconium base alloys, Microstructure  Virconium base alloys, Microstructure  Ultrasonium saudios, Microstructure  Virconium base alloys, Microstructure  Virconium base alloys, Microstructure  Ultrasonium saudios, Microstructure | 0884 | 1981-198 | rement of the Kearns texture factors in Zir-           | Ultrasonic measurement                                | 1559-1568A | oon steels.   |
| Bauschinger effect and multiaxial yield behavior of stress- reversed mild steel.  7ttrium, Reactions (chemical) Thermodynamics of yttrium and oxygen in molten zirconium.  7trium, Binary systems Dendritic morphology observed in the solid-state precipitation in binary alloys.  7trium, Binary systems Dendritic morphology observed in the solid-state precipitation in binary alloys.  7trium, Binary systems Dendritic morphology observed in the solid-state precipitation in binary alloys.  7trium, Binary systems Dendritic morphology observed in the solid-state precipitation in binary alloys.  7trium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  7trium base alloys, Phase transformations Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed.  7trium dioxide, Coatings Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings.  7trium dioxide, Coatings Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings.  8triconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  7triconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  7triconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium dae alloys, Phase transformations  8triconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  7triconium base alloys, Microstructure Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium dae alloys, Phase transformations  8triconium base alloys, Microstructure  1trasonic measurement of the Kearns texture factors in Zircaloy, zirconium dae alloys, Phase transformations  1trasonium dae alloys, Phase transformations  1tras |      |          | on (chemical)  | Zirconium, Reduction (che                             | 2641-2648A | luence of cold rolling and strain rate on plastic response of   |
| Thermodynamics of yttrium and oxygen in molten zirconium.  352-354B  Zinc, Binary systems  Dendritic morphology observed in the solid-state precipitation in binary alloys.  Zinc, Diffusion  A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.  Zinc, Reactions (chemical)  Zinc, Reactions (chemical)  Ultrasonic measurement of the Kearns texture factors in Zircaloy, zirconium, and titanium.  1981-198  Zirconium base alloys, Phase transformations  Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed.  Zirconium dioxide, Coatings  Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings.  Mathematical modeling of a melt pool driven by an electron  | 753A | 1739-175 | fracture and fatigue-crack propagation in a            | Mechanisms for fracture                               | 3069-3078A | uschinger effect and multiaxial yield behavior of stress-       |
| Dendritic morphology observed in the solid-state precipitation in binary alloys.  Zinc, Diffusion A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.  Zinc, Reactions (chemical)  Zinc, Reactions (chemical)  Zirconium base alloys, Phase transformations during ball milling of aluminum zirconium powder and the effect of milling speed.  Zirconium dioxide, Coatings Mechanism of spallation in platinum aluminide/electron beam physical vapor-deposited thermal barrier coatings.  Mathematical modeling of a melt pool driven by an electron   | 988A | 1981-198 | irement of the Kearns texture factors in Zir-          | Ultrasonic measurement                                | 352-354B   | ermodynamics of yttrium and oxygen in molten zirconium.         |
| Zinc, Diffusion A new analysis for the determination of ternary interdiffusion coefficient from a single diffusion couple.  Zinc, Reactions (chemical)  Zinc Reactions (chemical)   | 9904 | 1977-199 | transformations during ball milling of alumi-          | Cyclic solid-state transfo                            | 1529-1534A | endritic morphology observed in the solid-state precipitation   |
| Zinc, Reactions (chemical)  Mathematical modeling of a melt pool driven by an electron   |      |          | Coatings pallation in platinum aluminide/electron beam | Zirconium dioxide, Coating<br>Mechanism of spallation | 535-543A   | new analysis for the determination of ternary interdiffusion    |
| selective removal of into contaminations from 2m3-childred beam. 515-52 melts by cementation with zinc. 607-611B   |      | 515-52   |  |   | 607-611B   | elective removal of iron contaminations from zinc-chloride      |
| Zirconium dioxide, Composite materials  Discussion of "Particle engulfment and pushing by solidying  |      |          |  |   |            | pase alloys, Coatings   |
| Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.  437-448A interfaces. II. Microgravity experiments and theoretical analysis" and authors' reply.   | 894A | 1887-189 |  |   |            |   |
| Zinc base alloys, Phase transformations Phase transformation of Zn-4Al-3Cu alloy during heat treatment.  2irconium dioxide, End uses A pilot-scale trial of an improved galvanic deoxidation process for refining molten copper.  307-32   | 321B | 307-32   | of an improved galvanic deoxidation process            | A pilot-scale trial of an in                          | 917-923A   | hase transformation of Zn-4Al-3Cu alloy during heat treat-      |
| Zinc compounds, Ternary systems Experimental study of phase equilibria in the system PbO- ZnO-SiO <sub>2</sub> .  Zirconium dioxide, Impurities Dispersion of fine primary inclusions of MgO and ZrO <sub>2</sub> in Fe-10 mass% Ni alloy and the solidification structure. 1053-106   | 063B | 1053-106 | e primary inclusions of MgO and ZrO2 in Fe-10          | Dispersion of fine primar                             | 21-27B     | perimental study of phase equilibria in the system PbO-         |
| Zinc plating Microcracking of flash coatings and its effect on the Zn-Ni coating adhesion of electrodeposited sheet steel.  Zirconium dioxide, Reduction (chemical) Kinetics of chlorination of zirconia in mixture with petroleum coke by chlorine gas.  375-38   | 381B | 375-3    | nation of zirconia in mixture with petroleum           | Kinetics of chlorination of                           |            | crocracking of flash coatings and its effect on the Zn-Ni coat- |
| Zirconium, Binary systems Cyclic solid-state transformations during ball milling of aluminum zirconium powder and the effect of milling speed.  1877-1880A 2one melting Pattern formation during stationary heating and zone melting recrystallization of a silicon thin film. 807-8   | 813A | 807-8    |  | Pattern formation during                              | 1877-1880A | clic solid-state transformations during ball milling of alumi-  |
|  |      |          |  |   |            |   |